

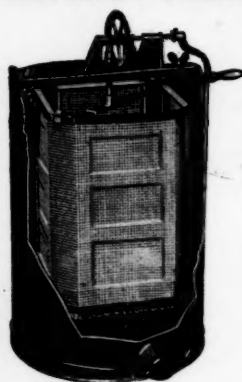
AMERICAN BEE JOURNAL

January
1936



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DOUBLE DUTY EXTRACTORS THAT EXTRACT COMBS and DRY CAPPINGS



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Prepare Now for the
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CHECK your stored combs, for those that need replacing. Cut out poor combs and replace with Three-Ply Foundation.

Make up a list of the new supplies that you would like to have for making increase or replacements, and send it to us. A detailed quotation will be sent to you, that will not obligate you in any way. .

Be prepared for a good crop in 1936.

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COUNCIL BLUFFS, IOWA

So This Is January

PREPAREDNESS is the first step in governing an apiary whose performance is to be smooth running. The routine is simple if a well organized plan is set to work.

First: Make it an important factor to have a copy of Lotz's 1936 catalog where you can get at it easily.

Second: Page through the catalog and make a list of the items your apiary is in need of. You will find everything there including LOTZ QUALITY SECTIONS.

Third: Mail the order at once and let us serve you in our prompt and courteous manner.

Fourth: Assemble your apiary fixtures during the winter and be all set to go when the sun shines and the bees are ready to make honey.

Lotz catalogs are free and will soon be ready for you. Write us if you do not receive a copy.

AUGUST LOTZ COMPANY
BOYD WISCONSIN



Where Service is a
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Italian Package Bees, Nuclei and Queens for 1936

Better Service and Higher
Grade Packages

Very likely the demand for package bees will be double the supply. We urge you to play safe and help us to help you by placing your order now for delivery in the spring when you want them. Reserve your shipping date now and do not be disappointed. Safe arrival and satisfaction guaranteed.

Fast night express insures few losses.
Health certificate with every shipment.

W. O. Gibbs Company
BROOKFIELD, GEORGIA
Box 81



COMMERCIAL QUEEN BREEDERS

PACKAGE BEE SHIPPERS

STANDARD PRICES FOR PACKAGES AND QUEENS

A FULL LINE OF BEE SUPPLIES

A SUPERIOR EQUIPMENT MANUFACTURED FROM THE "WOOD ETHERAL"

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Post Office, Montegut, La.

Telegraph Office, Houma, La.

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30 and 50 Frame Radial Honey Extractors

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With our Radials, the time required for the Reel to reach full speed in low is easily and quickly regulated, from two to ten minutes' time, by the Friction Adjuster.

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We will be glad to book your order now at the following prices:

No deposit required.

2-Pound Packages
with queens ----- \$2.45

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with queens ----- \$3.15

Untested Italian
Queens ----- \$.75

15% discount to dealers.

ed volume of business. But if you wait until the last minute you may not be able to get them just when you want them.

Our queens are reared under the best conditions possible and we are sure you will be pleased with them.

CYPRESS HIVES—Cut right, priced right, more durable.

THE STOVER APIARIES :: MAYHEW, MISS.

Help boost honey by supporting the Institute.

Meet Today's Needs With Dadant's Crimp-Wired Foundation

BEEKEEPING in 1936 is a vastly different occupation than the beekeeping of 1890. This is an age of swift motion; of fierce competition; of fractional demands which are the entire difference between making a profit or suffering a loss.

In this changed beekeeping every piece of equipment, in honey house and bee yard, must fit just right; must do a certain job so well that nothing else will take its place.



Dadant's Crimp-Wired Foundation meets today's demands in the apiary and in the extracting house. It is in tune with the times.

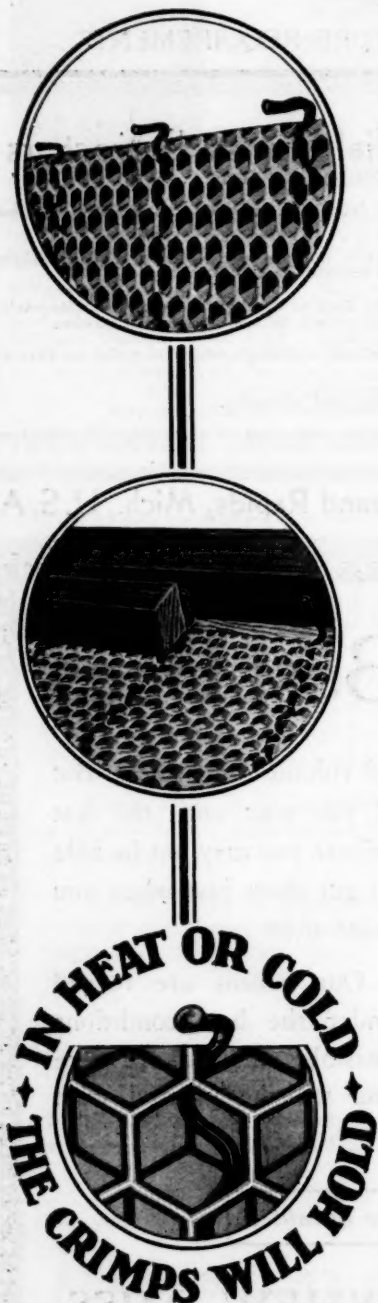


Beginning with the February advertisement and continuing through 1936, these nine outstanding merits of CRIMP-WIRED FOUNDATION will be vividly told, month by month. They will show the place that CRIMP-WIRED FOUNDATION holds in the swing of modern beekeeping—

1. Costs less to assemble.
2. Sets up rapidly when most needed.
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6. Permits free and easy comb handling.
7. Provides for safe moving of full colonies.
8. Drawn combs speedily extracted.
9. Gives combs with extra long life.



*When You Plan Your Foundation
Buying Consider What This
Means to You.*



Dadant's Foundations are made only of pure beeswax, just as your bees make it. Safeguard both your honey and your wax with an absolutely pure product.

DADANT'S FOUNDATION

CHOICE OF EXPERT BEEKEEPERS

The AMERICAN BEE JOURNAL

Established by Samuel Wagner in 1861

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The Oldest Bee Journal
in the English Language.

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In the United States, Canada and Mexico, \$1 a year; two years \$1.50; three years \$2. Foreign, \$1.25 a year; two years \$2; three years \$2.75. Subscription stopped at expiration date on wrapper.

Gangway for 1936!



No doubt you saw the Gold Medal counter displays featuring honey chocolate cake.



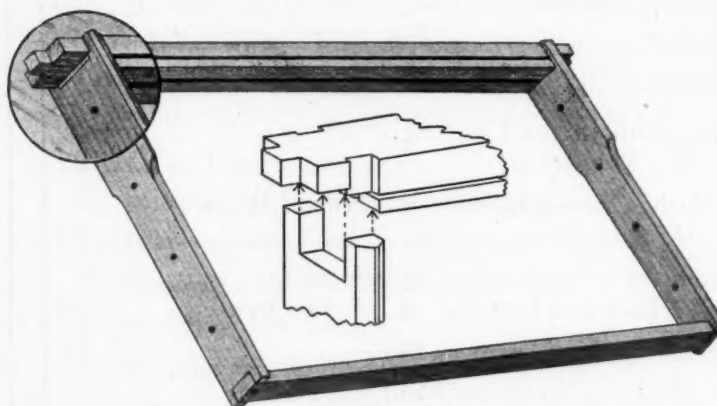
Swift and Company used a honey recipe in their advertising in magazines this winter.

HONEY certainly made headway in 1935. The advance in price was not alone due to scarcity of crop. Never has honey received the push from publicity that it got in 1935. It is estimated that for every dollar invested in honey publicity in 1935 through the American Honey Institute, \$45 in publicity were received for the producer of honey.

This added incentive is evident in the activity of honey producers in planning for 1936. We have sold more supplies this past fall for next year's use than in several seasons. Some shippers of package bees reported at Nashville that many were already booked with advance orders to 75 per cent of their 1936 capacity. Certainly these men are counting on the future price of honey even if there is a big crop in 1936.

Are you ready with equipment that will enable you to produce honey at the lowest possible cost? Surely cost of production is as important as the price you will receive. One way to cut costs is to have every item in the apiary usable with the least possible effort, for time is money when the flow is on. If you too plan expansion of your apiary, do not wait too long to get your supplies. They should be received, set up and made ready for the bees well in advance.

You assume no obligation in letting us help you with your plans. We will be glad to give any advice we can. Let us quote you on frames, bodies, foundation or any items you need. Write us today.



Here is the "strong" Lewis frame. Let us quote you on your needs for 1936.

HONESTLY MADE ————— HONESTLY SOLD ————— HONESTLY PRICED

LEWIS BEEWARE

STANDARD OF THE BEEKEEPING WORLD

G. B. LEWIS COMPANY

Established 1863

HOME OFFICE AND WORKS: WATERTOWN, WISCONSIN

BRANCHES: ALBANY, N. Y. LYNCHBURG, VA. WHEELING, W. VA. SIOUX CITY, IOWA



Vol. LXXVI—No. 1

Hamilton, Illinois, January, 1936

Monthly, \$1.00 a Year

Cost of Producing a Pound of Honey

By Penn G. Snyder,
Ohio.

The Government studies on beekeeping costs are very interesting and may be obtained from the Superintendent of Documents at Washington for five cents each. There are two publications: one on studies of costs in the West and another on studies of costs in the clover region.

In comparing our own figures with those given by the Government and with the discussion given by Mr. Snyder, the nearest arrival we can make including all costs in production and marketing, gives a total of about four to five cents per pound, depending on the crop and season.

It is interesting from this to figure income from a thousand colonies of bees with the present wholesale market price at $6\frac{1}{2}$ cents and the minimum cost given at 4 cents. This leaves an absolute net return of $2\frac{1}{2}$ cents so that it would take a hundred pound production from a thousand colonies to make an income of \$2,500.

On the other hand, if the price of honey goes much above 7 cents, the large carlot markets shrink. If it goes any lower than 6 cents, the profit to the beekeeper is so small that net returns lose much of their interest.

THIS is a subject we beekeepers seem to know very little about. However, the time has come when, if we wish to remain beekeepers or should I say honey producers, we must learn about it as the dairymen were forced to do not so many years ago.

First of all, we should note this fact; the honey consumption of the United States is not a small thing. From the figures which have been secured through several different sources we learn in an average year there is produced and mostly consumed by the American people about one hundred and eighty million (180,000,000) pounds of honey.

If we always keep this in mind we must realize the honey we individually produce cannot affect the market of the country. Even should we give it away as some of us have been doing the past few years we cannot affect anything more than our extremely local market. Do I hear someone ask why? The answer is obvious, the market is too large.

We beekeepers as a body have been hard hit by the depression and

we do not seem to be regaining our part of, shall I say cake, the farmers are now receiving through government aid and laws.

We beekeepers of Ohio who make (or are supposed to make) a living by working with our bees, have been wondering for the past few years if we were supposed to work for nothing and then be compelled to board ourselves. This is about what most of us have been doing for too long a time.

Very few of us keep any records of our cost of production. It is time we do so if we expect to remain solvent. Unless we do we are liable to wake up some fine morning and learn the sheriff has a nice lot of bees to sell which we had called our own.

Many of us, especially the man who has a few colonies, figure anything they receive from the sale of their honey to be clear profit. Nothing could be further from the truth.

"The laborer is worthy of his hire."

You, who labor with bees, work hard. You also get stung up and you know you are producing the finest sweet to be had in the entire world.

Is your labor worth nothing? Is the work of your bees worth nothing? Can you afford to give away the product of your joint labor? Speaking personally we cannot. Let us look at our work from another view point. The production of honey is a very special vocation. How many of your customers would produce honey if they were compelled to take the stings with it as we do? I believe there would be very few. Many love honey, few like bees and none of us like the stings.

To get down to cases, my partner and myself to date have been producing extracted honey in Montgomery County, Ohio, for the past nine years. We have not really kept a set of books from a bookkeeper's standpoint but we did keep quite a few figures. These show us the honey (which we produce by the ton) costs us, allowing nothing for interest on money invested, nothing for depreciation and nothing for our labor, an average of .058 cents a pound. This figure includes all containers. However it does not include the year 1933 in which we received

but two thousand pounds of honey. If we add this off year to our average cost for the eight years' crops we have harvested, we find a cost of .106 cents per pound.

Now if we should add to these costs the three omitted: interest, depreciation and labor, our cost of production would jump to about 14 cents a pound. Keep in mind these are actual net costs of production. They are not selling prices.

You all know what comb and extracted honey has been bringing the past three years in this country.

There are many beekeepers who do not subscribe to a bee journal. There are also many who do not even belong to their local, state or national associations for beekeepers. It is from these two organs we tap the sources of knowledge which are of vital importance to the beekeepers individually and collectively. Unless you have access to such a collected mass of knowledge you can know little or nothing of what honey is bringing in other localities or in other states in our country. Without this knowledge you are at the mercy of the man who is buying your crop be it hundreds or thousands of pounds.

Nor can you know the conditions of the crops in the large honey producing areas. If we should use the American Bee Journal as an object lesson the page devoted to the report of honey producers is alone worth more than the price of subscription to the man owning as few as ten colonies of bees. While we are on the subject of print let me add there is practically nothing printed in this magazine which is not paid for by the publishers in cold cash. For this reason you receive the cream of the current news and knowledge on bees and beekeeping.

All who read the daily or weekly newspapers know what the A.A.A. has accomplished for the farmers of the United States. It has been the greatest demonstration of joint co-operation our country has ever seen and our rugged individualism has fallen by the wayside in net returns when compared to the three A's. This would not have been possible without the means of the printed word which can reach every reader in a country.

So far, I have principally covered our own more or less personal experience. We will now take up a much broader field. The following is gleaned from the "Circular of Information" issued jointly by the United States Department of Agriculture and the Agricultural Department of the State of Oregon and covers the commercial beekeeping of an entire state.

As both extracted and section honey were produced they secured two

sets of figures, one for the extracted and one for the section honey.

If we take into consideration the price cost and average yield per colony in the various states we will find the cost of production should vary but little.

In going over these figures they do not appear to be out of line with our own. The survey gives facts and figures which make rather serious reading for us beekeepers.

In all there are eight tables or charts of figures covering various matters. As a rule we shall only speak of the number of the table and cull our facts and findings from them. To give the entire tables would make this article far too lengthy.

We learn those having only fifty or more colonies of bees were included in this survey. The average number of colonies owned by the different men was 192. In all there were 16,348 colonies producing extracted honey. As extracted honey is more widely produced we will take up extracted first and more fully, being of more interest to the greater number.

We find the amount of money invested in bees and equipment and then divide the total with the number of colonies and we find the average cost per colony is given as \$10.47. To me, this appears to be a very low figure as there are included in this amount for each colony four ten-frame bodies with drawn combs, inner and outer cover, excluder and bottom. It also covered all investments in extracting and other equipment as well as buildings. However there is a notation "that these prices represent the depreciated values of these times." This helps a little. All the figures are naturally the general average for the total number of colonies under study unless so stated.

Table No. 2 on values.

Bees	\$ 2.76
Hives and parts	3.48
Combs	2.47
Other equipment	.58
Harvesting equipment	.53
Buildings	.59
Apiary sites	.06

Total invested per colony \$10.47

The labor cost per colony	
per year was set at	\$1.71
Interest on investment	
per colony at 5%	.52
Total yearly cost per colony	3.89
Total cost from total apiaries	
of producing one pound	.064

These last four quotations were gleaned from table number three which gives the yearly work and cost of producing a crop of honey. One column gives the average cost per pound and that is the one in which we are most interested. We learn the total net cost per colony from one year's crop to the next is averaged

at \$3.89. This item covers labor, material and supplies, cans, cases, use of auto, taxes, rents of apiary sites and depreciation. The average rate per pound was found to be .064 cents. Remember this is PRODUCTION cost put on a business basis. The tables numbered two and three give the foundation on which we can work and much can be learned from them. They will bear careful and thoughtful scrutiny by all who devote their time to bees and honey.

No storekeeper could remain long in business if he did not know what the goods he sold cost him. We must ever keep in mind the costs are always there. You may buy the goods; you may grow them; or you may manufacture them; no matter how you get them there are always fixed charges which have to be met sooner or later in their growing, production or manufacturing. If we do not meet these costs when due we automatically retire from business and become just another failure.

Table number eight gives us figures which we beekeepers should expect to find there. We have assumed the average amount of honey produced per colony must affect the cost of production. We were correct in this belief, very much so. The following from this table demonstrates this.

From Table No. 8.

With yields of 30 lbs. the	
production cost per lb is	\$.133
With yields of 60 lbs. the	
production cost per lb. is	.087
With yields of 100 lbs. the	
production cost per lb. is	.045

We can readily see there is a big gap between 4 and 13 cents.

From table number seven we get the per pound cost in conjunction with the number of colonies producing at this individual price. From the following figures we again glean much information. We learn that of the sixteen thousand odd colonies 1,461 produced honey at 4 cents per pound or 9 per cent of the total; 2,732 produced honey at 4 to 5 cents per pound or 16.7 per cent of the total; 1,766 produced honey at 5 to 6 cents per pound or 10.8 per cent of the total; 3,275 produced honey at 6 to 7 cents per pound or 20.1 per cent of the total; 2,145 produced honey at 7 to 8 cents per pound or 13.1 per cent of the total; 1,900 produced honey at 8 to 10 cents per pound or 11.6 per cent of the total; 2,572 produced honey at 10 to 20 cents per pound or 15.7 per cent of the total.

This table gives us some very vital facts. If we pick out the highest figure in our percentage column we get 20.1. This figure represents a little better than one-fifth of all the colonies. Their cost is 6 to 7 cents per pound; 36.5 per cent of the total number produced their crop at

a little less, from 4 to 6 cents; while 40.4 per cent or almost half of the colonies in the investigation had production costs running from 7 to 20 cents a pound. Again keep in mind these figures are of actual PRODUCTION COSTS. We may say roughly one-half the colonies produced honey at from 4 to 7 cents per pound and the other half at from 7 to 20 cents a pound.

Honey at this time was bringing wholesale 5 cents per pound. So there were only a trifle over 25 per cent of the bees in the state which were being worked at a profit; 75 per cent were producing honey at a loss to the beekeeper. How long can we keep this up?

Table number five on the production of section honey gives the following figures which show the investment per colony is less than for the extracted but on the other hand the labor costs are much higher.

Labor per hive per year	-----	\$3.20
Material and supplies,		
sections, etc.	-----	1.09
Bees and queens bought,		
use of truck, etc.	-----	.94
Total	-----	\$5.23

After deducting the by-products which consisted of rents for pollination, extracted and chunk honey, beeswax, etc., we find a total net cost per colony of \$4.70 for the year's work. This is almost one dollar greater than the extracting colony costs.

With this figure we get a cost per case of 24 sections averaging 12 ounces each of \$2.60, or ten and five-sixths cents per section. Added to this must come selling and delivery costs. These last figures are not given.

A bulletin has just reached me giving the cost of producing honey in the White Clover Region. This survey covered the years 1930 and 1931 and took in bees located in six different states all within the white clover district. The owners of close to 9,000 colonies reported their figures which were made under supervision for this paper. The general average wholesale price received for the two years was six and a quarter cents a pound. The amount invested per colony including all equipment was \$18.74. Total cost per year in labor, interest on investment and upkeep of colony \$4.91. It required 78 pounds of honey to pay the cost of production from one colony. The general average shows a profit, but we also learn 22 per cent of the colonies were worked at a loss and 33 per cent, one third of the owners, lost money, some of them to the extent of \$1.38 per colony.

From these varied reports on the cost of production we beekeepers may learn much which we can apply to our own individual work. If we will keep figures and compare them

with those already in existence we can learn where our expenses may be too high and we can then at least make an attempt to lower them.

Two Exhibits



ABOVE, exhibit of the Hankammer Bee Supply Store, Warne Avenue, St. Louis. Seldom do supply dealers take the interest these folks do in the actual production end

of beekeeping. The Hankammers are interested in organization and are always attendants at the meetings of the local associations.



ADAM BODENSCHATZ did a real job with this exhibit. Cook-DuPage (Illinois) beekeepers know him well enough. Illinois beekeepers are generally kin to Adam. But he ran

off with the palm this time and no questions asked. Few will take the care and time to do as well in exhibition. This display was shown at the Illinois state fair.



Forward March

Once again we look forward to the beginning of a new year. To the editors of this magazine it means the start of a new volume—the 76th. Seventy-five years have passed since the American Bee Journal was founded. It made a modest beginning with the announcement that “It will serve as a repository of whatever is of practical value in this department of Rural Economy; and as a vehicle by which information can be readily, rapidly and widely diffused so that the early introduction of useful improvements may be secured.”

We are proud of the part that has been played by this publication in the introduction of useful improvements in the seventy-five years that it has served the beekeepers. In its pages appear the story of the development of honey production from a mere fad to a commercial enterprise. Most of those who have had an important part in this development have been numbered among its readers and have enjoyed a friendly intercourse with their fellows through its agency.

We hope to be permitted to carry on during the years to come and to render a similar service to the beekeepers of the future. We confidently expect to see a growing and more prosperous industry and will be pleased to be permitted to continue to be “a vehicle by which information can be readily, rapidly and widely diffused.”

Much remains to be done to improve the lot of the beekeeper. A stable market such as is already available to the dairy industry must be secured; disease must be conquered, new honey producing plants suited to regions with poor honeyflows must be introduced and many other problems must be solved. We repeat the invitation of Samuel Wagner in the first issue 75 years ago to our readers “to communicate with us freely giving us an account of their own peculiar methods—their successes as well as mishaps.”

Don't Take Chances

In this issue is an article of unusual interest when Dr. O. W. Park describes in detail the behavior of bees in ridding their hives of American foulbrood. There is grave danger that beekeepers may become unduly enthusiastic and place too much confidence in the ability of all bees to do likewise.

We would warn our readers that as yet there appears to be no stock available which can be depended upon to clean up this disease. Too often this ability fails to carry over to the next generation and young queens reared from such stock fail to make a similar showing. In fact in the experimental apiary one colony succeeded in cleaning up while another of the same stock quickly went down.

We find in this result enough encouragement to justify the hope that by careful breeding, resistant stock may be available within a few years. It is the plan to continue this investigation and to rear queens from the outstanding colonies to be mated by the Watson method with drones of similar parentage. Several generations of such breeding will be necessary to provide stock which can be risked as a means of disease control.

In the meantime we would advise against taking any chances with disease. Only in rare cases do we find the ability to rid the combs of the contagion and there is too much risk to justify the beekeeper in experimenting. When stock which is dependably resistant is available the fact will become known. Until then we must depend upon time tried methods and should continue to give our inspectors every possible cooperation.

Plant Poisoning of Bees

Extensive losses of range cattle and sheep in the West is responsible for some extensive investigations of the plants which are poisonous. In view of the fact that bees often die from mysterious causes it is to be hoped that all such investigations can be broadened to include possible loss to the beekeeper as well as the stockman. Aside from the good work of George S. Vansell, but little relating to the effect of poisonous plants upon the honey-bee has come prominently to public attention.

A new bulletin entitled “Stock Poisoning Plants of California” recently issued by the University of California at Berkeley, contains much of interest to anyone interested in this problem. All plants known to be dangerous to livestock may well be held in suspicion by the beekeeper until we know about the subject.

Among the many plants discussed in that bulletin are several which are commonly reported as sources of honey. The Loco is said to be the source of some honey in much of the arid West and is most commonly reported from Colorado. Loco has long been known as a dangerous browse plant for cattle or sheep and more recently has come to be questioned as to its possible effect upon the bees.

There are several milkweeds known to be poisonous widely distributed in California and adjacent states. While the bees work milkweed freely in many places it has not been generally regarded as dangerous in its nectar secretion.

More than two dozen species of plants known to be poisonous are discussed in the bulletin and perhaps half of them are attractive to the bees at times. It would seem to be highly important that the question of extent of poisonous effects of nectar secreted by such plants be investigated. It is probable that many unexplained losses of bees may be cleared up thereby.

What Price Honey

The November number of Wisconsin Horticulture raises the question of the right retail price of a five-pound pail of honey. With the wholesale price of seven cents per pound the conclusion is that 60 cents should be the minimum price of a five-pound pail. The costs are estimated as follows:

Five pounds honey at 7 cents	35 cents
Cost of pail	6 cents
Label and labor of packing	1 cent
Retailer's profit about	15 cents
Total	57 cents

On this basis the packer would receive but three cents for his profit. With honey selling at retail at even lower prices it is easy to see why the packer must buy at low prices. The remedy, if there be any remedy, appears to be to maintain a retail price which will cover all the packing costs and leave a sufficient margin for profit.

Dust vs. Liquid Spray

The use of dust in the spraying of fruit trees for the destruction of noxious insects appears to be increasing. For certain insects the dust is more satisfactory but at the same time there is greater danger to the bees when dust is applied to the blossoms. A dust that is fatal to other insects is sure to kill the bees that may chance to be visiting the flowers when it is applied. The November Bee World tells of the destruction of the honeybees in

raspberry plantations when Derris Dust was used to kill beetles. Raspberries are very attractive to the bees and they swarm on the blossoms in large numbers during the time of bloom.

Serious losses to the bees continue to be reported from areas where large scale dusting is carried on. The problem is not easy of solution but the interest of both fruit grower and beekeeper demands that it be found.

Diversification

Always someone is raising the question as to whether beekeeping is best carried on as a specialty or in connection with some other enterprise. It is one of those questions which can never be answered definitely because no two persons find themselves in exactly the same situation. Under certain favorable conditions the beekeeper will fare better by devoting himself entirely to honey production. Under other conditions he will do better to remember the old time recommendation of "the cow, the pig and the hen", as the basis for prosperity.

Hutchinson argued that the thing which would go best with beekeeping was more bees and, in localities of dependable honeyflows and favorable markets, his recommendation is still good. However, there are large areas where the honeyflow is seldom heavy and where crops are not dependable. In such a situation the beekeeper may find himself in hard circumstances if he has no source of income but the sale of honey.

During the recent depression many lines of business have proved unsafe when followed alone and diversification has followed former specialization in thousands of cases. Thus a few bees have been added to a surprising variety of undertakings. Not only gardeners, fruit growers and poultrymen have become interested in honey production as a side line, but many professional folks and merchants have decided that there might be something in honey production as a help toward a living for them.

So general has this change been in some localities that the State Apiarist of an important honey producing state recently expressed the opinion that this class of honey producers had largely replaced the commercial specialist, and that in the future they are likely to dominate the industry.

Specialization has largely been the result of the post war boom, and with the disappearance of the conditions which caused it there is a tendency to return to the former ways of living. Under favorable conditions specialization offers larger returns, but diversification offers greater security.

A Promising Prospect

Beekeepers generally are feeling optimistic concerning next season's prospects. Abundant rains over much of the country have soaked the dry soil and honey plants are in better condition. The late fall flow put the bees into unusually good condition for winter and it is thought that in the average locality they should come through in good shape for the harvest.

Already southern package shippers are receiving enquiries about bees for next spring delivery and the size of orders on which quotations are wanted indicates another good season ahead for the package man. While the price of honey is not high, the demand is good and the available supply is unusually low with a prospect of a bare market before the next crop comes on. All signs point to better times for the beekeeper.

With such a prospect the wise honey producer will take stock of his outfit and get ready for the coming crop. Now is the time to put all equipment in shape, paint the empty hive bodies and repair tops and bottoms.

It is not too soon to order frames and foundation and new hives for next year's use. Doctor Miller used to advise having as many empty supers on hand for each colony as were filled in the heaviest crop known to the locality. When a heavy flow comes supers will be filled with surprising rapidity and the fellow who has the equipment ready is the one who gets the big yield. In every good season large losses occur for lack of sufficient equipment. With every indication of a favorable season ahead it will pay to be forehanded.

Save the Trees

Probably no country in the world had finer natural forests or a better variety of native trees than this. In view of the wastage that has been so general one must recognize the fact that they have been but little appreciated. Too many of our great fortunes have been accumulated through the despoilation of natural resources which should have been conserved for the benefit of all the people.

The vast white pine forests along our northern borders have all but disappeared and the yellow pine of the South and the firs of the Northwest are rapidly following. Even the parklike areas of hardwood along mid-western streams have largely been destroyed.

If we are to continue as a prosperous nation a different policy of dealing with our trees must be adopted. Trees must be treated as a crop to be replenished as used. The soil erosion that has followed the removal of the trees in many places has all but ruined large areas for productive use.

The beekeeper is a conservator. He lives from the gathering of a product which would otherwise be lost and the activities of his bees greatly increase the output of his neighbor's crops. If others would follow his example abundance would follow on every hand.

The welfare of the whole people is so dependent upon the use of the natural resources that there is no longer any excuse for permitting such wanton waste to continue. The writer once asked a western lumberman what the next generation could do for suitable forest products. His reply was that if present practices continue, lumber such as we now use would no longer be available. He then volunteered the remark that the present day forest owner was getting his while the getting was good without regard to public policy.

While much honey is gathered from forest trees, the beekeeper has more than a selfish interest in conservation. His whole scheme of life is based on such a policy and the public always benefits from anything which increases his prosperity.

Show Your Product

The writer has been disappointed at the failure of the beekeepers to make suitable exhibits of honey at some of the smaller fairs which he has attended. Too often when prizes are small it is felt that it is not worthwhile to make the effort necessary to make a good display.

The fair offers the best kind of opportunity to place our product before the public in a favorable light and no effort should be spared to do so. Manufacturers pay cash for space and appreciate the privilege of displaying their goods. The beekeeper can profit in similar manner by exhibiting even though no cash prizes are offered. The increased demand for honey which comes from a good exhibit makes the effort worth while.

Keep Up the Quality

One great problem in maintaining markets for products of variable quality is to insure that the consumer will get fair grades. There is much complaint among consumers of citrus fruit that unripe oranges or grape fruit are often sold to them. In the competition between the growers of citrus in Florida, California and Texas, it often happens that in their eagerness to be first in the market some begin shipping fruit before it is properly ripened. The buyer is thus discouraged from further purchases and the market suffers serious injury.

Honey of inferior quality when put up for table use thus brings a similar reaction from the housewife who buys it. If she gets an article of fine quality she will be ready for more but the poor article remains unused on the pantry shelf.

Low grade honey should only be offered for what it is, to those who have use for that quality. Until there is some centralized agency for packing honey it will probably be impossible to prevent individual beekeepers from offering baking grades of honey for table use.

Disease Resistance and American Foulbrood*

By Dr. O. W. Park, Research Associate Professor,
Iowa Agricultural Experiment Station, Ames, Iowa.

FOR nearly four centuries, shaking has been the only corrective treatment known for American foulbrood. In recent years, hundreds of infected colonies have been burned outright in a desperate attempt to reduce the disease. Shaking and burning have served to hold it in check somewhat, yet today American foulbrood is more widespread than ever before.

It now appears we have been so intent upon our shaking and burning that we have failed to give adequate consideration to a line of endeavor which has returned large dividends when applied to the control of various diseases in both plants and animals. I refer, of course, to the development of disease-resistant strains.

Right here at the Iowa Agricultural Experiment Station, Dr. W. V. Lambert has obtained excellent results in developing a strain of chickens resistant to poultry typhoid. Through selection, he has been able to decrease the mortality from 85 per cent in the parental stock to about 10 per cent in the fifth generation. No one knows whether similar work on bees would yield a material reduction in losses from American foulbrood, but the possibility is there.

*Journal Paper No. J310 of the Iowa Agricultural Experiment Station, Ames, Iowa. Project No. 448.

Are we going to dismiss it without a trial?

During the past 20 years there have been several reports of colonies that appeared to possess either immunity or resistance to American foulbrood. A colony that is immune will not develop the disease at all, while one that is resistant may take the disease but will either recover or live on in spite of the disease. Immunity is either complete or entirely lacking, while resistance may be great or small, except that when it reaches perfection, it ceases to be known as resistance and is called immunity. Immunity is so rare that a search for resistance offers far greater possibilities.

Among the first to report instances of colonies believed to be immune or resistant to American foulbrood, should be mentioned Herman Rauchfuss, of Colorado, John M. Bixler, of Iowa, and Bruce Lineburg, of Illinois. Recently there have been similar reports from Charles Mraz, of Vermont, Erwin C. Alfonsus, of Wisconsin, R. G. Richmond of Colorado and others.

Up until eight years ago, when Dr. L. R. Watson gave to the world his technique for instrumental insemination of queens, there was some reason for our failure to undertake

the development of a strain of bees resistant to American foulbrood, but since that time we have had no valid excuse. Considering the fact that resistance to American foulbrood has been reported a number of times during the last 20 years, is it not strange that we have been so very slow to follow up this clew?

Search for Resistance

A search for bees resistant to American foulbrood has been under way during the past season, as a project of the Iowa Agricultural Experiment Station. Three agencies are cooperating in this work: the Entomology Section of the Agricultural Experiment Station, the Agricultural Extension Service of Iowa State College, and the American Bee Journal. The Extension Service is represented by the State Apiarist, Professor F. B. Paddock, who, in connection with his regular duties, is constantly on the lookout for stock that gives promise of being disease-resistant. The American Bee Journal is represented by its Field Editor, Frank C. Pellett, who acts as apiarist and collaborator. The Entomology Section is represented by the writer, who is in charge of the technical phases of the project.

While the ultimate goal of this investigation is the development and propagation of a resistant strain, our immediate objective has been to answer the question: **Does variation in resistance to American foulbrood exist in honeybees?** Obviously a negative answer would mean that there is no possibility of breeding a resistant bee, while an affirmative answer would give reason to expect some degree of success. We are well aware that scattered cases have been reported as showing resistance to American foulbrood. Such reports suggest a probability that some colonies possess resistance to a greater degree than do others, but there still is much to be desired in the way of conclusive evidence.

In brief, our plans for determining whether variation in resistance to American foulbrood exists, were to obtain supposedly resistant stock from every possible source, bring such colonies together in one place and inoculate them with uniform doses of the disease.

A testing yard, established with the approval and under the regula-

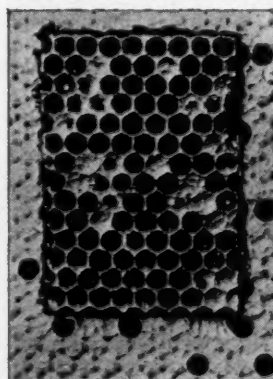
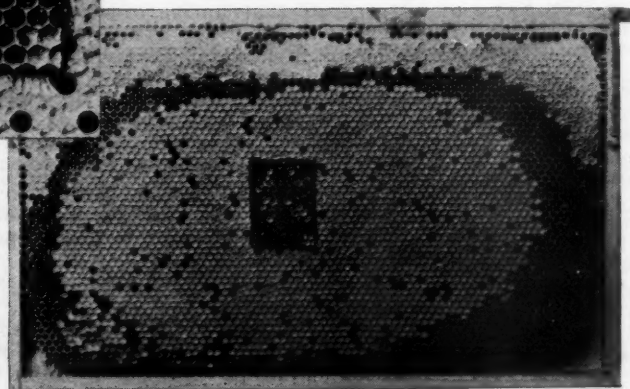


Fig. 1. Top left enlargement. Inoculations were made by placing a rectangle of A.F.B. comb in the center of a comb of brood.

Fig. 2. Below. Frame containing A.F.B. insert as given to the bees.



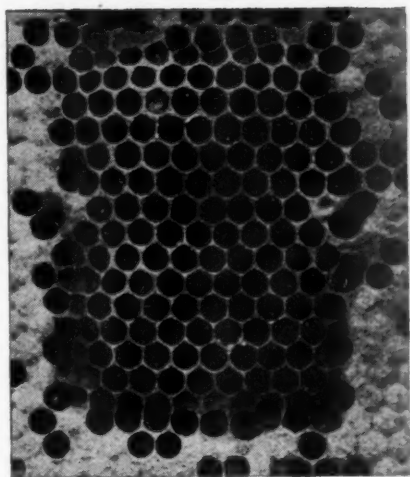


Fig. 3. Insert after four days—repaired and cleaned. Colony apparently disease free September 28.

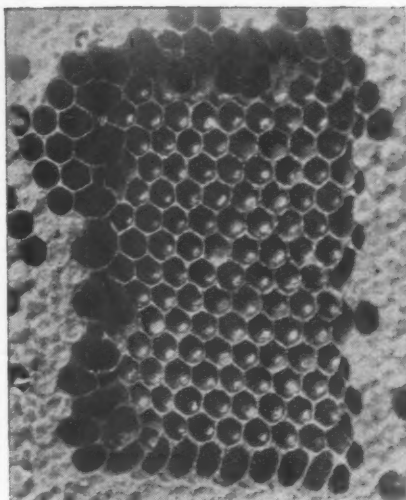


Fig. 4. Insert after three days—cell walls removed to mid-rib. A.F.B. present September 28.

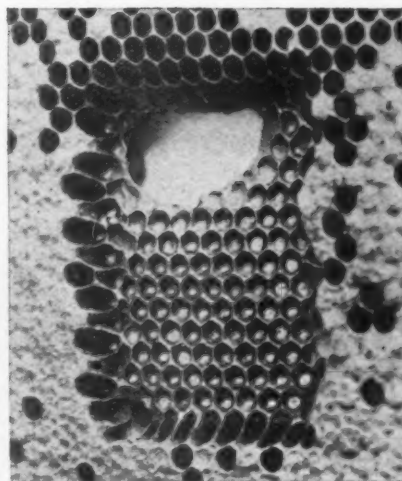


Fig. 5. Insert after four days—cell walls and part of mid-rib removed. Bad case A.F.B. September 28.

tions of the State Apiarist, was located on the Frank C. Pellett farm near Atlantic, Iowa. To this yard were brought 45 colonies that were suspected of possessing some degree of resistance to American foulbrood. Among them were representatives of Italian, Caucasian and Carniolan races, besides several hybrid strains. They came from many sections of the United States and were furnished gratis. In some instances, the beekeeper even prepaid transportation charges. It is evident, therefore, that beekeepers are interested in this investigation and are anxious to cooperate in this organized search for resistant stock.

Testing for Resistance

Two methods were considered for administering uniform doses of the disease. The first consists in feeding syrup or honey in which is suspended a given number of spores of the causal organism, *Bacillus larvac*. This method has been used by Dr. A. P. Sturtevant and by Prof. R. G. Richmond in this country and by Prof. H. O. Muck in Austria. It has often failed to produce the disease whereas, Prof. Muck reports that the following method has rarely failed. A rectangle of comb is removed from the center of the brood nest and is replaced by a similar rectangle cut from a comb containing numerous scales of American foulbrood.

The latter method was selected for our work. The rectangles used were approximately 2 by 2½ inches and contained about 200 cells, of which approximately half held scales of American foulbrood (See figs. 1 and 2). No inoculation comb containing less than 75 scales was used. Any colony that is able to withstand such a dose surely must possess more than ordinary resistance.

Combs used in making inoculations were taken from a single source. This was done in order to eliminate

any variation which might result if material from more than one source were used. The potency of the organism in this material can scarcely be doubted since it came directly from an apiary that only recently had been wiped out by American foulbrood. Furthermore, results of inoculations made during the past season indicate no lack of potency.

In order to obtain a fair test, it was considered that the colony should occupy eight or more Modified Dand brood combs and that at least 75 per cent of its adults should be the progeny of the queen then heading the colony. And since this stock came to us as queens, as nuclei and as combless packages, several weeks elapsed before any of it was ready for inoculation. Only 25 of the 45 received, built up in time to be tested this season. The other 20 built up nicely for winter, however, and will be put to the test early next season.

In addition to the 25 supposedly resistant colonies inoculated this season, six check colonies were tested, making a total of 31 inoculations. The check colonies were from ordinary stock and not supposed to be resistant. In fact, previous experience with stock from the same sources indicated probable susceptibility.

All inoculations were made during the first three weeks of August. Frequent examinations were made during the week following inoculation in order to observe the behavior of the bees toward the insertions. Cells of American foulbrood usually were present by the end of the third week, and whenever they were found, samples were taken for final determination under the microscope. By the time the last examination was made, on September 28, from two to three cycles of brood had been reared since the inoculations were made. Brood rearing was still in full progress in most of the colonies, although

in a few it had been reduced somewhat.

While final results of these tests cannot be known before another year, it is believed that sufficient information has been secured to warrant this preliminary report.

Reactions Toward Inoculation Comb

Observations made a few days after inoculation combs were given, revealed wide variations in the way different colonies reacted toward these rectangles of comb containing American foulbrood scales. Some colonies accepted the inoculation comb, fastened it securely in place, repaired damaged cells and proceeded to clean out the scales. A case of this kind is pictured in fig. 3 as it appeared four days after being inserted.

Other colonies tore away the cell walls as shown in fig. 4, and some removed portions of the midrib also, as may be seen in fig. 5. A few days later it was found that in such cases the cell walls had been reconstructed of new wax on the old midrib.

Still others removed every vestige of the inoculation comb and completely rebuilt with new wax. Figs. 6 and 7 illustrate such instances. Notice that the bees made use of this opportunity to build drone cells and that the queen lost no time in laying eggs in them. Fig. 8 shows a similar case. The inoculation comb was given August 2 and when this picture was taken, four days later, the inoculation comb had been removed completely. New comb already occupied the space except for a circular area about three-fourths of an inch in diameter, as may be noticed. In fig. 9 this same comb area is shown as it appeared on the seventh day after inoculation, completely rebuilt and containing young brood and fresh nectar. On August 20, three weeks after inoculation, dozens of cells of

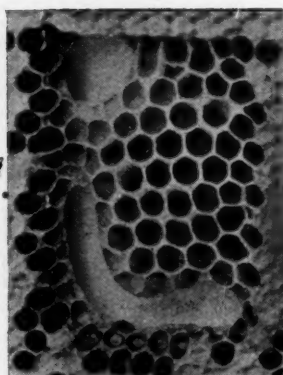
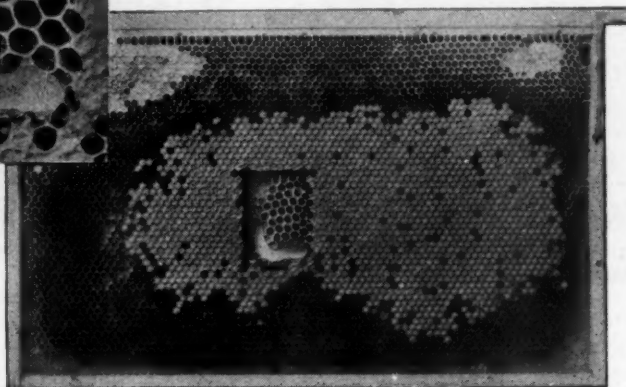


Fig. 6. Top enlargement. Insert after four days—cell walls completely removed and new comb started.

Fig. 7. Below, comb showing the same detail. Colony apparently disease free September 28.



American foulbrood were found in a fan-shaped area spreading out below the place where the inoculation comb had been. The explanation for this seems to be that spore-laden particles must have fallen into these cells while the bees were tearing down the inoculation comb. By September 15 the bees had removed every trace of dead larvae, and subsequent examinations have revealed none. On September 28 the comb inoculated eight weeks before, appeared as shown in fig. 10. It may be observed that no indication of disease is to be seen. Even the very cells that had contained larvae dead of American foulbrood on August 20, now held brood which, to all appearances, was healthy.

Ask the Bees

Do bees behave differently toward comb containing American foulbrood

scales than toward other, similar old comb? This question naturally arises, so the bees were asked to answer it. Their answer may be discovered by looking at figs. 11, 12 and 13. Fig. 11 shows a frame of brood containing two rectangular pieces of old black comb inserted within the brood area. A closer view of these inserts is shown in fig. 12. The insert at the left, as may be judged from the picture, contained scales of American foulbrood, while the other was disease-free. In this condition, the frame was returned to its hive. Fig. 13 shows the appearance of these same inserts three days later. All that remained of the diseased comb was a part of the midrib, but the other insert had been accepted without alteration. Seven other colonies were subjected to this kind of a test, and every one of them removed a

Fig. 8. Insert completely removed after four days and new comb nearly completed. Colony apparently disease free September 28.

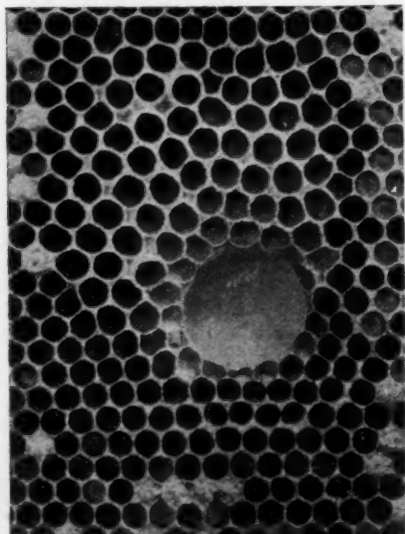
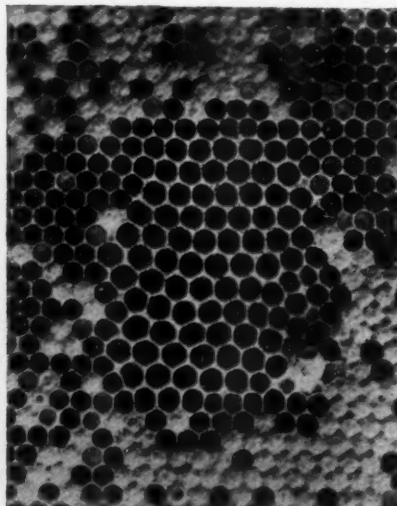


Fig. 9. Same as Figure 8, but taken three days later.



considerable part of the diseased insert, but in no case was the disease-free insert altered. It is apparent, therefore, that bees do not reject inserts of comb merely because they are inserts, but rather because of some objectionable feature such as the presence of American foulbrood scales. At any rate, it is a significant fact that some colonies tear down and remove comb that is infected with American foulbrood.

Results

An attempt has been made to classify, according to their behavior, all colonies that were inoculated during the season. Three fairly distinct groups have been recognized as follows: Group I—Colonies that accepted the inoculation comb with little or no alteration. Fig. 3 shows a typical example. Group II—Colonies that tore down cell walls but did not remove the entire insert. Examples are shown in figs. 4 and 5. Group III—Colonies that completely removed the inoculation comb. An example is shown in fig. 6.

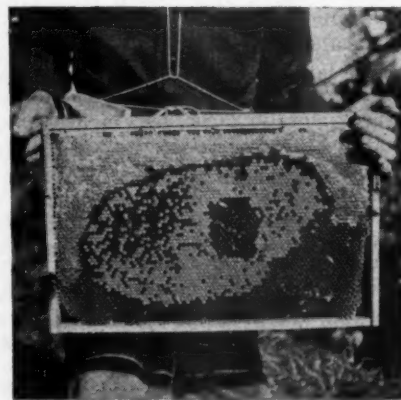
It is to be understood that there were several intermediate cases which presented some difficulty in exact classification, but for the sake of simplicity, each of these was assigned to the group it most resembled.

Results of this classification are tabulated below.

Group	I	II	III
Total colonies	12	15	4
Apparently disease-free			
September 28	3	1	3
Disease-free colonies as percentage of group	25	7	75

Detailed records enable us to classify still further the colonies that accepted the inoculation comb. Some did a poor job of cleaning out the

Fig. 10. Same as 8 and 9—taken September 28, eight weeks after inoculation. Colony apparently disease free.



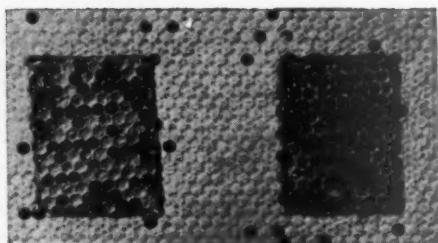


Fig. 11. Top, left. A.F.B. insert at left, disease free insert at right.

Fig. 12. Full comb, showing the same two inserts, left A. F.B.; right, disease free.

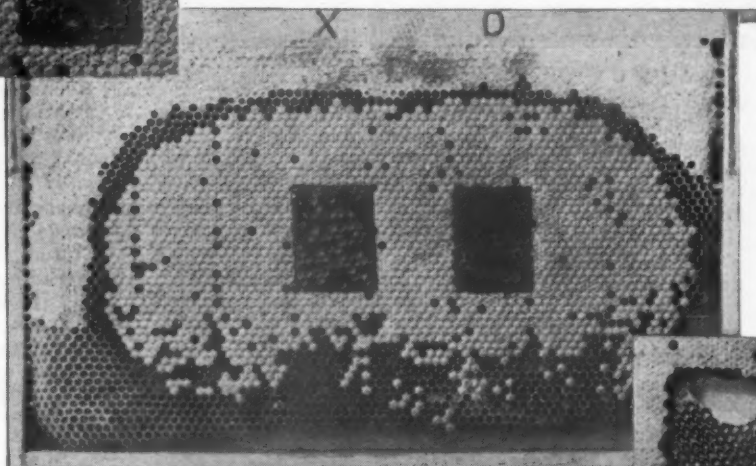
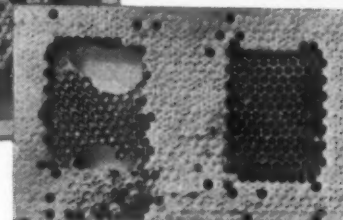


Fig. 13. Same as 11 and 12, but taken three days later.



foulbrood scales, and subsequent records show that they became badly infected before the close of the season. On the contrary, three colonies that did a thorough job of cleaning out the scales, were found apparently free from disease on September 28.

Only one of the 15 colonies that tore down the cell walls to the mid-rib, was found apparently free from disease on September 28. Since five of the six check colonies belong in this group (the sixth belongs in Group I), there is reason to wonder whether this type of behavior may be more or less characteristic of colonies that are susceptible to American foulbrood.

Three of the four colonies that completely removed the inoculation comb were found apparently free from disease on September 28. Nothing can be said regarding the fourth because of incomplete data.

In all, seven of the colonies tested were found apparently free from disease before the end of the season. This group includes representatives of several races and various strains of bees.

We must not take it for granted, however, that a resistant strain will be available next season or the one after that. Years of selection and breeding are sure to be required for building up a desirable strain that will breed true for resistance. In the meantime, let every beekeeper be on his guard to discover and eliminate American foulbrood as soon as it appears in his yard.

Summarizing, we find that 31 colonies were inoculated. American foulbrood became well established in all

six of the check colonies and in several of those supposed to be resistant. Of 25 supposedly resistant colonies tested, only seven were found apparently free from disease on September 28. Of these seven, all but one is known to have developed more or less American foulbrood following inoculation.

It is concluded, therefore, (1) that variation in resistance to American

foulbrood does exist in honeybees. The immediate objective of this investigation has, then, been reached. It is concluded, also, (2) that marked resistance has been demonstrated by several colonies, and, therefore, that our ultimate goal, a strain of bees which will breed true for resistance, holds possibilities which challenge our best efforts.

Alabama Breeders Support American Honey Institute

I AM attaching a list of subscriptions for the American Honey Institute for 1936.

We have gone approximately \$50 more than we pledged for 1935.

We have been trying to reach the point where Alabama breeders are 100 per cent subscribers to the American Honey Institute and we believe that we have virtually done so for the 1936 season. List of pledges is as below.

Thos. Atchison,
Inspector of Apiaries,
State of Alabama.

Jasper Knight, Hayneville, \$25; W. E. Harrell, Hayneville, \$25; M. C. Berry, Montgomery, \$25; J. M. Cutts & Sons, Montgomery, \$20; Bolling Bee Co., Bolling, \$15; David Running, Sumterville, \$15; W. F. Holder (Holder Apiaries), Citronelle, \$15; W. J. Forehand & Sons, Ft. Deposit, \$15; H. C. Short, Fitzpatrick, \$15; P. M. Williams, Castleberry, \$12.50; Caucasian Apiaries, Brooklyn, \$12.50;

Taylor's Apiaries, Luverne, \$10; Citronelle Bee Co., Citronelle, \$10; N. B. Smith Company, Calhoun, \$10; Crenshaw County Apiaries, Rutledge, \$5; P. B. Skinner, Greenville, \$5; Calvert Apiaries, Calvert, \$5; Chas. A. North, 1001 Protective Life Bld'g, Birmingham, \$5; Prof. J. M. Robinson, Auburn, \$5; V. R. Thagard, Greenville, \$5; Lewis & Tillery Bee Co., Greenville, \$5; Thomas Atchison (State Apiarist), Montgomery, \$5; J. F. McVay, Jackson, \$5; Tillery Brothers, Greenville, \$3; Prof. F. E. Guyton, Auburn, \$2.50; Bagby Hall (Hanna Motor Co.), Birmingham, \$2; Graydon Brothers, Greenville, \$1. Total contributions, \$278.50.

HONEY GATE

Plate your honey gate with a coating of chromium, three one-thousandths of an inch thick. It will prevent discoloration and lengthen the life of the gate.—(From the floor, Detroit Convention.)



Indiana Beekeepers' Meetings

A meeting of beekeepers that should be well attended and of interest to all is the Beekeepers' Short Course to be held at Purdue University in West Lafayette, Indiana, January 14, 15, and 16, 1936. Prof. F. B. Paddock of Ames, Iowa, who is the chief apiarist of that state will be the principal out of state speaker. A number of well known Indiana beekeepers will also appear on the program. Almost every phase of beekeeping will be discussed during this Short Course. There are no enrollment fees.

Following this meeting and beginning with January 20th, 1936, a series of local or county meetings have been arranged by the Chief Inspector of Apiaries for the Department of Conservation. These meetings will be held in almost every county seat city of the state.

The purpose of these county meetings is to make contacts with all the beekeepers in each county in an effort to have the beekeepers understand what the Department of Conservation is trying to do in their behalf, and if possible, have the owners of the bees take a more active interest in this work and in the effort to rid the state of American foulbrood, the chief brood disease of bees. It is a well known fact that many bee owners know but little about the proper care or management of their bees and less still about the brood diseases.

These meetings will give the beekeepers an opportunity to attend these meetings where they may ask questions and hear some practical discussions of bee management including tricks of the trade, disease control, equipment needs, the use of good stock and other pertinent phases of the industry which the speaker will be able to present. A crying need in many districts is a united effort to control the diseases of bees. Only by organization of the beekeepers in each county can this be effectively done and by the cooperation of the beekeepers themselves in the inspection work the cost to the state can be reduced one-half. Beekeepers are urged to attend these meetings, and to become better acquainted among themselves and with the inspectors in charge.

The following is a part of the schedule proposed for the county meetings. For exact meeting places

consult your County Agricultural Agent or the local papers:

Jan. 20, Winchester, 1:30 p.m.; Jan. 21, Portland, 1:30 p.m.; Jan. 22, Decatur, 1:30 p.m.; Jan. 23, Ft. Wayne, 1:30 p.m.; Jan. 24, Auburn, 1:30 p.m.; Jan. 25, Huntington, 1:30 p.m.; Jan. 27, Albion, 1:30 p.m., Ligonier, 7:30 p.m.; Jan. 28, Lagrange, 1:30 p.m.; Jan. 29, Angola, 1:30 p.m.; Jan. 30, Columbia City, 1:30 p.m.; Jan. 31, Muncie, 1:30 p.m.; Feb. 1, New Castle, 1:30 p.m.; Feb. 3, Nablesville, 1:30 p.m.; Feb. 4, Danville, 1:30 p.m.; Feb. 5, Lebanon, 1:30 p.m.; Feb. 6, Logansport, 1:30 p.m.; Feb. 7, North Manchester, 10:00 a.m.; Feb. 7, Wabash, 1:30 p.m.; Feb. 8, Peru, 1:30 p.m.; Feb. 10, Frankfort, 1:30 p.m.; Feb. 11, Delphi, 1:30 p.m.; Feb. 12, Monticello, 1:30 p.m.; Feb. 13, Rensselaer, 1:30 p.m.; Feb. 14, Knox, 1:30 p.m.; Feb. 15, Winamac, 1:30 p.m.

James E. Starkey,
Chief Inspector of Apiaries.

1936 Beekeeping Short Course

Farm and Home Week, University of Illinois (104 Experimental Zoology Laboratory), Corner Wright and Healy Streets, Champaign.

Tuesday, January 14

9:00-9:50—"The Bees' Home—Tips on Preparation," V. G. Milum.
10:00-10:50—"Getting Acquainted With the Bees," R. W. Fay.
1:00-1:50—"Factors Affecting Physical Properties of Honeys," V. G. Milum. (See display on this subject in Home Economics Exhibit in Woman's Building.)
2:00-2:50—Extracting demonstrations.

Wednesday, January 15

8:00-9:50—"Fall and Winter Management," V. G. Milum.
9:00-9:50—"Requeening—How, When and Why," "Bee Hysteria," Carl E. Killion, Paris.
1:00-10:50—"Swarm Control in Extracted Honey Production," G. H. Cale, Editor, American Bee Journal, Hamilton, Ill.
1:00-1:50—"Producing Comb Honey," Carl E. Killion.
2:00-2:50—"Removing the Honey Crop," representative of American Bee Journal. "Making Increase and Management of Package Bees," I. C. Evans, Decatur.

Thursday, January 16

8:00-8:50—"Adult Bee Diseases," V. G. Milum. "Diagnosing Brood Diseases," G. H. Cale.

9:00-9:50—"Apiary Inspection and Methods of Brood Disease Control," C. L. Duax, Chief Inspector of Apiaries. "Lessons from Experience," W. G. Duckwall, President Illinois State Beekeepers' Association.

10:00-10:50—"Saving Steps in Apiary Management," E. F. Peterson, Kewanee, Secretary, Illinois State Beekeepers' Association. Demonstrations by visitors of handy devices and shortcuts. Bring yours.

1:00-1:50—"County Organizations and Their Relation to the State Association," W. G. Duckwall, Jacksonville, President, Illinois State Beekeepers' Association. "Grading and Packaging of Honey," E. F. Peterson.

2:00-2:50—"Our Advertising Dollar," Wesley W. Osborn, Treasurer, Illinois State Beekeepers' Association. "Popularizing the Use of Honey," Mrs. C. L. Duax, Secretary, Illinois Honey Foundation.

The above program is the thirteenth annual beekeeping short course presented by the Beekeeping Division of the Department of Entomology, University of Illinois with the helpful cooperation of prominent beekeepers of the state. It is a part of the general program of Farm and Home Week annually presented by the College of Agriculture. Discussion sessions will be held simultaneously in other agricultural lines such as poultry, horticulture, vegetable gardening, farm mechanics, dairy husbandry, agronomy, home economics and farm management. This offers a wide variety of subjects and information for every member of the family.

Beekeepers attending the sessions in that branch are invited to bring in special apiary devices or equipment for demonstration at the designated time on the Thursday program. We will be looking for you.

V. G. Milum.

Beekeepers' Short Course, Purdue University, Lafayette, Indiana, January 14-16, 1936.

Tuesday Morning, 9:00-12:00, Agricultural Building, room 103.

"1935 Conditions and the 1936 Outlook," J. E. Starkey, State Bee Inspector, Indianapolis.

"The Life History of Honeybee and Its Relation to Beekeeping Practices," B. Elwood Montgomery, Purdue.

"Time Savers in the Bee Yard," L. R. Stewart, Newport.

Tuesday Afternoon, 2:30-4:30, Agricultural Building, room 103.

"Recent Developments in the Use of Honey," Aneta Beadle, Purdue.

"Through the Year With the Bee Colony," F. B. Paddock, Iowa State College.

"The Value and Methods of Con-

(Please turn to page 36)

Southern States Beekeeping Conference Report

By M. G. Dadant.

THE annual meeting of the Southern States Beekeeping Federation was held December 2 and 3 at the Hotel Andrew Jackson in historic and picturesque Nashville, Tennessee. There were some twenty states represented at the meeting.

G. W. Bohne, President of the organization, presided and E. G. LeSturgeon acted as Secretary in the absence of Secretary G. G. Puett.

Preparing Queens for Shipment

E. C. Bessonnet of Louisiana talked on preparing queens for shipment. He stated that vital points in selection of the queen were as follows—how the queen is laying, the uniformity of eggs, the activity or energy of the queen, the size. It is very important to have a good strong robust queen as large as possible. She should lay very uniformly in the comb and should be lively and a rapid layer.

In caging queens, it is necessary to pick the queen up carefully by the wing in order not to damage her in any way and the nurse bees also for the cages should be selected as young as possible, as the older are apt to die. In numbers, it is necessary to have more in colder weather, reducing perhaps to five or six in very warm weather.

Raising the Queen—H. C. Short

Mr. Short agrees exactly with Dr. Miller's quotation so often read in previous years in the bee journals "For best success, get pure stock, keep tab on every pound of honey taken from each colony, then breed from the best storer that are all right in color and temper." Mr. Short stated that good imported stock had some characteristics which we do not have in our American breeding and that in many respects, American stock is not far ahead of the imported, while in many others, the imported stock is better. In other words, we have not made as much progress in bee breeding in this country as we should have. He reported three imported queens which he had secured as being gentle, quiet, filled the hives with bees with no disposition to swarm and good honey producers.

Some of the characteristics to be bred into the bees are: (1) Honey production. The better the record, the better the stock. (2) Gentleness. Bees that can be handled in any weather without becoming unduly cross are desirable. (3) Even marking. Uniformity of color is not only

satisfactory to the honey producer but is also a sign of good breeding. Mr. Short also stated that queens should be uniform in other respects as well as in color and markings.

Queens should be kept in normal colonies with good combs in order to be able to tell such breeding characteristics and whether the queen is failing. One year will give a fair record and the next year the queens can be used for breeding.

Larvae should be grafted that are as young as possible, in a room of the right temperature, with ample humidity. Royal jelly gotten from other cells is most desirable.

In the starting colonies, strong colonies are shaken down on combs thirty minutes before cell cups are grafted. The next day, cells are transferred to cell building colonies. These are queenright colonies with a surplus of nurse bees with plenty of food. Fifteen queen cells can be given every three to five days in such colonies. After the cells are finished, they are put in shallow frames, five frames in a nucleus.

There is no objection to baby nuclei. They are just as good if they have sufficient bees. The difficulty with baby nuclei is the tendency to fade out in six weeks unless plenty of attention is given them. Mr. Short likes each queen to rear some 2,500 cells of brood in her mating box before being prepared for shipment.

Failing Queens

Eugene Cutts, of J. M. Cutts & Sons, spoke on why queens failed in package shipments. Mr. Cutts stated, of course, that the breeders were some to blame if the queen was not safely protected between the queen mating nucleus and the cluster of bees in the package itself. He was inclined to think, however, that the bulk of the difficulty with failing queens was in the installation of the package in the North and that breeders should be more careful in giving instructions to their northern buyers as to the proper requirements for installing the package and caring for it until it became of normal strength.

Discussion

E. R. Root mentioned that Ambrosoli in the northern Alps of Italy has some extremely desirable Italian bees which may be imported at present. These are dark colored, gentle and used to a cold climate. The queens are ready for any American condition.

He stated that Mr. Pritchard suggests that baby queens are not fed satisfactorily and that proper temperatures are many times not maintained during the rearing.

Inspector Foster of Florida stated that the temperature of cells when transferring has considerable to do with the color of queens. Cells handled during lower temperatures are apt to make the queens darker.

Mr. J. I. Hambleton remarked that queens under abnormal conditions are bound to produce abnormal bees.

Fred W. Muth commented briefly on ultra-violet treated queens.

Package Bees

The discussion now drifted to package bees. S. E. Merrill discussed the cost of package bees and the method by which packages are made, a quantity of packages being placed in a long row and then an entire roll of screen wire running over all of them so as to cover a lot of packages at one time. The screen wire can then be slit and the packages nailed. His estimated cost of completed packages is 30 cents not including syrup.

Package Preparation

M. S. Fortune of Stover Apiaries discussed package preparation. A large part depends upon the preparation of the colonies. The colonies should have good queens and good stores but not too much honey in the spring. He likes the two-story eight-frame package for best results. A crew of eight men is used in taking packages. Two or three men find the queens. These queens are caged at the entrance. One man puts queens in packages and distributes them to the colonies.

Two men next shake the packages into the colonies, another man closes the packages and takes them to the large screen truck which is used and still another is in the screen truck, crating and labeling the packages for shipment.

Mr. Fortune had some remarks to make on express shipping of packages stating that it was desirable not to put over three packages in one crate for shipping by express and that these should be carefully spaced and carefully piled so as to avoid any express losses. He stated the losses during the 1935 season had been only about 10 per cent of the losses in 1934.

Owing to the lack of space, this report will be concluded in the February issue.

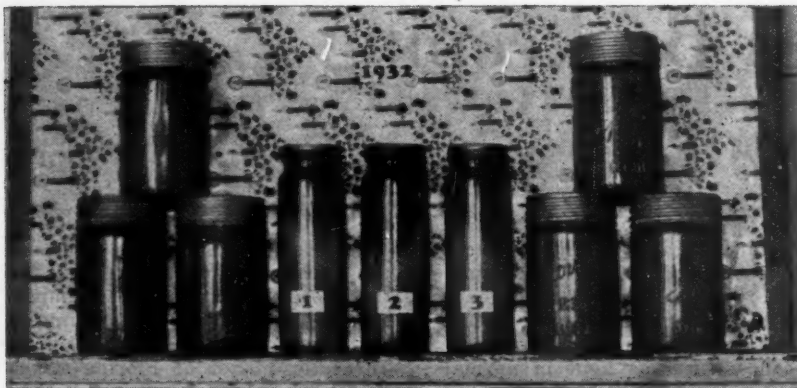


Photo K. The three labeled tall jars contain honey of the first test, extracted without shields. The pint jars, contain honey extracted with shields. The tall pound jars show clear liquid on top, granulation at bottom. Pint jars granulated solidly from top to bottom. Impact, then, plays a major part in the separation of levulose and dextrose in honey.

Pounding the D— Out of Honey

By C. E. Phillips,
Ontario.

*"What's the use knowin' so much (about honey)
when so much we know, ain't so?"*

I ALWAYS wanted to know why extracted honey granulates quickly while comb honey remains liquid for months. Various reasons were advanced but none satisfied me.

After all, the only difference between comb and extracted honey must be in the process of removing it from the combs. Could the steam-heated knife cause part of the packaged honey to remain clear while other packages granulated quickly? Could centrifugal force separate its composition during the time it left the comb until it hit the extractor wall? Does the solution lie in the impact when hitting the can?

I set up the theory that honey like milk, is largely constituted of two chief parts, viz, levulose and dextrose (vs. milk and cream) and is thrown apart in extracting. Since dextrose is always at the bottom of the jar,

it must be of heavier specific gravity so centrifugal force might be a factor in upsetting its delicate composition.

In the fall of 1932, I started experiments, using a two-basket hand power extractor. To lessen the impact against the can, I place galvanized shields on the baskets which caused the honey to flow in a stream to the wall of the extractor instead of in the form of rain as in the present method. Before the shields were put on, two combs of honey were extracted alternately from the same super. It was sampled in three one-pound jars, numbers 1, 2 and 3 shown in photograph K.

Next the shields were put on and four more combs from the same super were extracted. This lot was put in pint fruit jars shown in photo L. After granulation was completed, the

pound jars showed a large amount of clear liquid on top; the pint jars granulated solidly from top to bottom. This convinced me that impact played a major part in the separation.

In the fall of 1933 I borrowed a cream separator of antique design, from a dealer who did not care to loan a new one. This was in my favor, as I found afterwards, when using a new machine. The discs were farther apart on the older ones and better suited for honey. It was necessary to heat the bowl and the honey to bring the conditions nearer to that of separating milk. After repeated trials, liquids came from both spouts.

All the honey in photograph L was taken from the same super. Part of the super was extracted and the honey allowed to stand for an hour, without using shields. No. 1 was the first

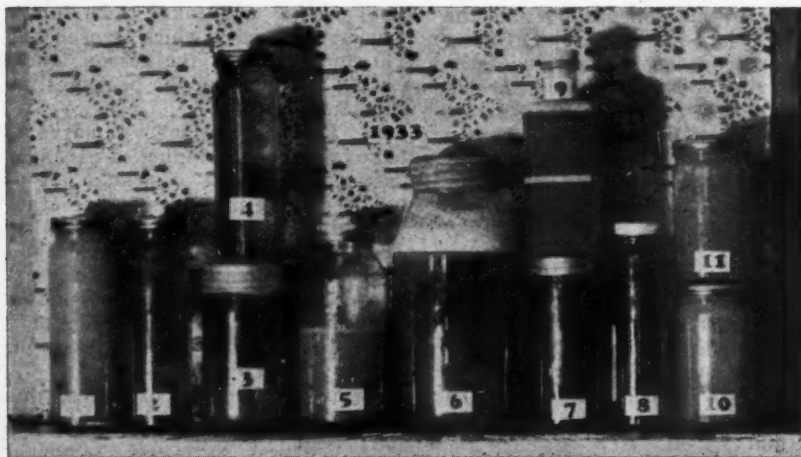


Photo L. Samples 1-4, extracted without shields, drawn after standing an hour, in this order 1-2-4-3. One granulated, dextrose; 2-3-4, mostly or all levulose.

5-6, from separator spouts. 5, all dextrose; 6, mostly levulose. (See text for balance.)

sample taken from the extractor and appears to be mostly dextrose. Nos. 2, 4 and 3 were the last drawn in the order mentioned and appear to be mostly levulose. 2 and 4 are clear to the bottom. 5 and 6 are part of the samples from the separator spouts. 5 appears all dextrose, 6 mostly levulose. Perfect separation was not effected.

Four ounces were then taken from sample 6 and colored with cochineal and poured into bottle 9 and a strip of paper attached to mark the top line. The bottle was then carefully filled from 5, the dextrose, to see if its gravity would carry it through the levulose to the bottom. This experiment seemed to show that when equal parts were together, there was activity which distributed both fairly evenly.

No. 7 was made up of equal parts of the two separator samples, warmed to 105 degrees F. and stirred for ten minutes in a cream freezer and gradually cooled with water. This remained liquid for two years.

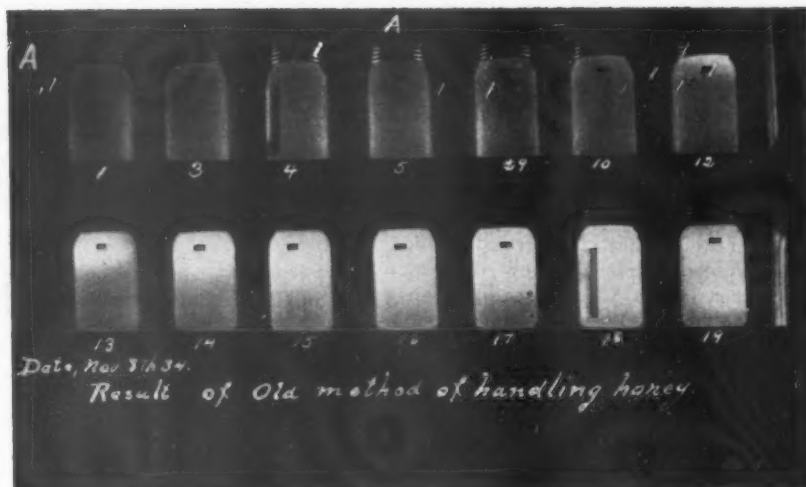
At this point, the extractor was drained, washed and dried. A test was then made by extracting without the shields by running the extractor 240 revolutions per minute with the gate open. Sample No. 8 was the first one caught and it remained clear. This test was to prove that the levulose was the first to reach the bottom of the can while its sluggish brother dextrose would eventually slide beneath and raise the levulose above it.

The extractor was again washed and dried and the last two combs were extracted with the shields and sampled from first to last out of the can. These granulated evenly with no liquid on top as shown in pint jars, 10 and 11, photo L.

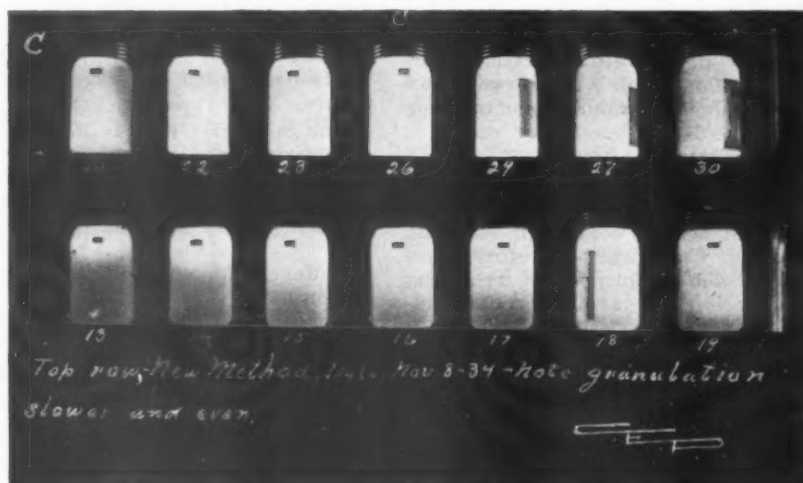
The honey from the cappings was kept separate, in all these experiments. It was allowed to drain quietly and the samples all granulated earlier than any of the others. Its granulation was of finer texture. I attribute this to dehydration because of the steam knife.

In the fall of 1934 I decided to enlarge my experiments to include a whole super. Two well capped supers were chosen that would seem to contain honey from the same source. Five combs from one and four from the other were extracted without shields and all this honey was allowed to stand in the extractor three hours. The whole lot was then drawn into quart jars and each numbered as drawn.

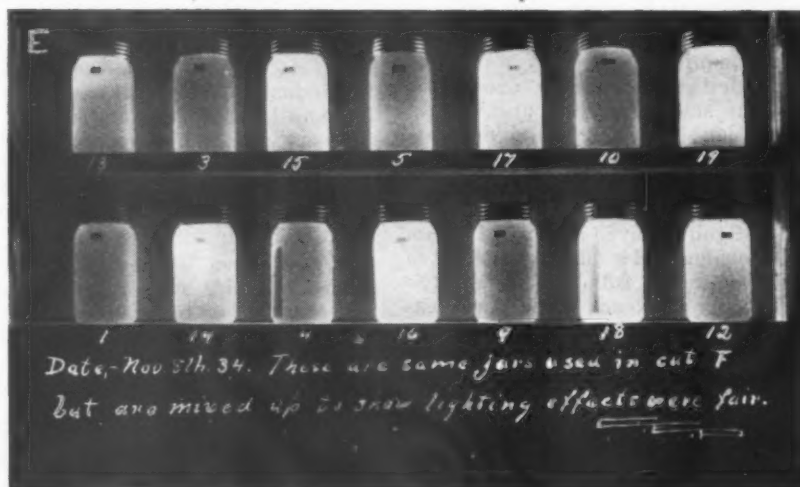
By this time it was clear to me that the levulose formed an inner film on the wall of the machine while the heavier dextrose lay next to the metal. As these two films slid to the bottom, they formed in two distinct layers. If these two ingredients were of different color as in milk and



Old way of extracting: samples drawn in order numbered and allowed to stand two months before photo was taken. Amount of granulation indicated by darkness of sample. 1 shows most; 19, least.



Bottom row, exactly the same row as at bottom in photo A, extracted by old method, showing variation in granulation indicated by light intensity. More white, more light, less granulation. Top row, samples from new method, with shields, little or no granulation. Thorough blending.



Same jars as in photo A, distributed to show that the lighting effect is a fair indicator of granulation. Darker the sample, more the granulation. The white light shows clear liquid with little or no granulation.

cream, a gauge glass would show them. The photo of group A proves this theory.

In the tests shown in photos A, C and E, the honey was extracted on September 8th and the picture taken two months later. The numbers indicate the order in which the samples were drawn from the extractor. It will be noticed that after granulation, the levulose starts to show on No. 12, increasing in 13 and so on down to the bottom of 19.

The next batch consisting of the remaining nine combs from the two supers was extracted with the shields on the baskets, the object being to note the difference between the two methods. This lot was slower to granulate and was not complete until about December 1st. No liquid showed in any of the jars from first to last.

Photo C shows the bottom row of the same jars used in photo A while the top row are the last seven from the second batch. The light came through these well, indicating little granulation while the lower row shows dense granulation tapering from No. 13 to 19.

From this photo, it might be thought that jars 20 to 30 contained only levulose but this is not the case since all became solid with no liquid showing. The shields, therefore, served the double purpose of retarding granulation and avoiding liquid unevenly divided.

Group E contains the same jars as the photo A but mixed to show that the lighting effects were fair. All the honeys in these tests came from combs that had never been used for brood. While photos were taken at various stages, space would not permit their use in this article.

Granulation tests were made by pitting brood comb honey against new combs and in two seasons' trials, the brood honey granulated rapidly and fermented, while the other is still good after three years.

In summing up the results of these tests, first let it not be understood that the shields entirely prohibit the separation of levulose and dextrose but they do tend to give each package its proportional share.

What would you think of your dairy if you received a quart of cream one morning and a quart of separated milk the next, followed by all the variations between these two extremes? It is beyond my means to develop a machine to reincorporate honey as I think it should be. To some extent, the honey pump has performed a beneficial service.

I believe the experiments of Paine and Lothrop have approached this accomplishment without using the proper proportions of "cream and milk," so varying results must ob-

tain. Passing honey through the filter aids, break it up into fine molecules necessary in reconditioning it. It is my firm conviction that both the radial and old style extractors are **POUNDING THE DEXTROSE OUT OF HONEY.**

Has all our analytical work been done from upset honeys, and if it

has, how much do we know about its balance

"Humpty Honey, snug in the comb, by centrifugal force to the can was thrown. Can all the King's horses and all the King's men, put Humpty Honey together again?"

I think so.

Wanted—400 Kansas Beekeepers

By H. W. Stewart,
Secretary Kansas State Beekeepers' Association.

BECAUSE the Kansas State Beekeepers' Association for a number of years has been in process of decay, a number of little associations have sprung up like sprouts around a dying tree to serve local interests where beekeeping is most favored by nature. They include:

The Southeast Kansas Beekeepers' Association.

The Arkansas Valley Beekeepers' Association.

Allen County Beekeepers' Association.

Coffey County Beekeepers' Association.

Northeast Kansas Honey Market- ing Association.

When it is considered that Kansas has between 60,000 and 80,000 colonies of bees, there is a pressing need for a strong state organization to head-up and take care of the collective interests of what J. C. Mohler, secretary Kansas Board of Agriculture, calls "the state's growing and important industry." It is not our purpose to point out possible artificial barriers which may have brought the state association to its present crisis, but to make an appeal to Kansas beekeepers to consider their own material welfare, as well as to provide the industry with a degree of social life and to put a new enthusiasm into every man and woman who has a part in apiary operation. The past is dead. Everything that can affect us favorably must necessarily come from this time forward.

I now have on my records the names and addresses of 280 beekeepers, of whom an insignificant fraction are members of the state association. Doubtless there are a considerable number whose names are not even on my list. I need them. Hence the call: "Wanted—400 Kansas Beekeepers" as members of the state association. Our goal is not a myth—it's the dream that is going to come true.

We know that masses of men working together soon learn a fundamen-

tal truth. They unite in common judgment for collective and individual well being. Beekeepers also must learn that truth, even though they labor in widely separated places. The fact that he works single-handed or at most with a helper or two, owns his own business, seeks his own market, sells his own product on no particular price basis—this fact tends to lure the average beekeeper into a false notion of his independence. It leaves him outside the influence of the industry as a whole. Lost to him is the exchange of ideas and experience where men congregate. And lost to all is that united power to command unstinted cooperation of state agencies in their behalf, where financial appropriations and organized operations are beyond the province of beekeepers' organizations. Let everyone, therefore, ponder these benefits.

I want every beekeeper to know, too, that in this campaign for a rehabilitated state organization there is no Ethiopian in the woodpile. All the cards are on the table. I shall of course do a lot of work as secretary of the association with no thought of financial gain. I fully believe, therefore, that when our beekeepers shall have full confidence and implicit trust in their Association they will back up this campaign by their individual efforts. I am ashamed to say it, but at the 1934 meeting at Topeka there were only seventeen paid members. That year seemingly nobody cared. In 1935 a few cared and the membership was forty-two—an increase of 250 per cent. Suppose, now, that "all of us care." What a miraculous revival of the Kansas State Beekeepers' Association there can be!

The several beekeeping magazines, I believe, will give publicity to our campaign. They will reach a large number of Kansas beekeepers; and I shall circularize every one whose name is on my list, some time in January.

As your secretary I have gone afield for direction and advice. President O. A. Keene of Topeka writes me of his one hundred per cent endorsement of the program. J. C. Mohler, secretary Kansas State Board of Agriculture, is furnishing me statistical data, and thinks that we should consolidate our strength, because, he says, "so much more can be accomplished" in that way. Without mentioning all, I must not forget to acknowledge the fine assistance of Dr. R. L. Parker, State Apiarist, who ends a letter: "Let us have for our slogan: 'A Strong Kansas Beekeepers' Association.'" He suggests that a

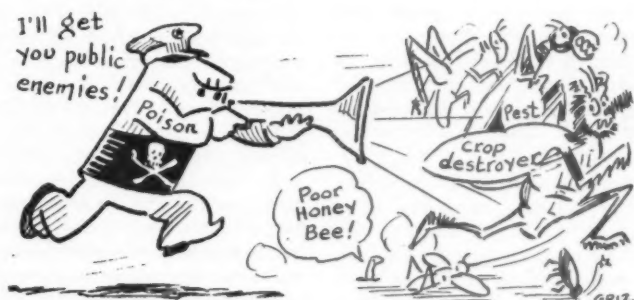
strong organization could have, besides a regular summer meeting, a winter meeting to be hooked up with Farm and Home Week at Manhattan, the forthcoming date for beekeepers being February 6, 1936. Before that event this article will have been published, and my personal letter will be in the beekeepers' hands sometime during January. I personally pledge each of you that I shall be there, "providence permitting." Won't you pledge me, and each other? The response at this February meeting should show the direction of the wind, whence, let us hope, we may chart a new voyage for the Kansas State Beekeepers' Association.

than any other operation. It's an unpleasant feeling for the beekeeper to find that supers taken off of diseased colonies have gone into the extracting pile. Returning supers to their original hives may be of some help but it is not safe after foulbrood honey has gone through the extracting equipment.

When a few diseased colonies are found in a yard it is a danger signal and steps should be taken for the protection of the healthy colonies. Infected colonies have no actual value and the beekeeper who destroys disease as soon as it is found usually is ahead financially. We can put our finger on the colonies where American foulbrood has been found but how about the hidden infection in other colonies. After finding a few diseased colonies in a yard we know that the rest have been exposed and it will require time to determine what may develop. Most any good beekeeper can find diseased brood but there is none of us who can find the infection before it reaches that stage. It is possible for two colonies to set side by side and both carry infection in at the same time and one develop disease within a few days while the other might carry the infection in the hive for several years before foulbrood develops.

Treating bees is not considered a means of eradicating disease. It is more of a control measure or retarding method. Many beekeepers are blaming their neighbor when their real trouble is recurrence of disease in treated colonies. The average beekeeper who finds no disease in his treated colony in the fall feels (Please turn to page 36)

Airplane Poisons Bees When Crops Are Dusted



GRIZ" gives a pretty true picture. In a release dated December 8, the Department of Agriculture has the following to say about this practice:

"Dusting cotton with poison from an airplane protects it from the boll weevil. Dusting saves many other plants from lice, worms, and bugs. Unfortunately, however, say entomologists of the United States Department of Agriculture, it also kills bees in nearby apiaries. Poison dust from airplanes is difficult to control. Much of it drifts to adjoining fields, and if these fields contain flowers from which honeybees are gathering nectar, the bees are killed. In some localities entire apiaries have been exterminated."

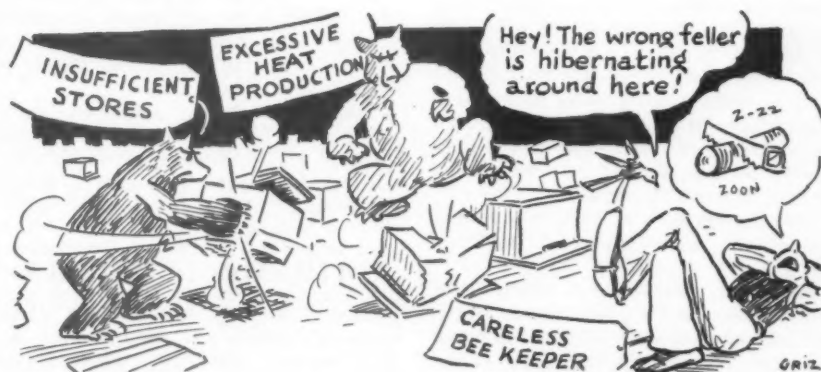
Disease Prevention

By Howard Shipton,
Iowa.

A great deal has been said in regard to treating American Foulbrood but I am sure there has not been enough said about its prevention. There is probably more disease spread by the beekeeper himself in commercial yards than is carried in by the bees. This is done by transferring brood to strengthen in the

spring or in making increase. Taking extracting supers off without making a thorough inspection is probably the means of spreading more disease

Hibernation



ARE you hibernating or are the bees? Of course bees don't hibernate, but beekeepers can do much to keep their clusters comfortable. Some packing is necessary when bees are exposed. With natural protection in warmer locations, packing may be omitted but sufficient stores and big clusters are important for a crop of honey in 1936.

It is too late to do much about it now. This is just a reminder after all. Outdoor wintering bees might still be protected; they might even be moved to sheltered locations. What will the winter bring? This is always a perplexing question to beekeepers from about Christmas to the first of March. It is the "death" period.

The Davitte Experiment

By E. M. Cole,
Iowa.

I WAS pleased to see in the December issue a reprint of the Davitte Experiment in mating queen bees in a tent.

I was reading "The Review" at the time this report was published but I do not now recall how much faith I had in it then. Various were the comments it brought forth; some had absolute faith in it, others believed that Davitte had deceived himself and not a few thought he had "cooked" it up.

I do know that, as time went on and the experiment was occasionally mentioned, I gradually formed the opinion that it was pretty nearly pure fake.

The Journal's comment at the head of the article says "it seemed to have had a degree of success." That is putting it mildly. One hundred queens were claimed to have been mated under control. That is a fine success. He insists that 500 queens a day might have been mated.

It seemed so simple and easy and so cheap, considering results, that a season or two ought to have seen the method in general use, but it dropped from sight and of late years has been rarely mentioned.

The apparent ease of the method and its failure to "catch" caused me to believe it a fake.

Between the time when Davitte's idea appeared in print and the present, I have read much. I had failed, however, to connect some of the things I had read with Davitte's experiment. When I opened the Journal and read the account of his work, it flashed to me that Davitte was absolutely honest in his belief that he had mated the queens in confinement, that he saw them mate in the air, "the queen and the drone fall **nearly to the ground** and the queen go directly to her home."

The emphasis is mine and it marks one of the main causes of Davitte's error.

Reaumur, who about 1744, confined queen and drones under glass, thought he saw a tendency for them to clasp. So did John Keys, "The Ancient Beemaster," in the 1790's; but neither seemed to have formed any definite conclusion as to their mating in confinement.

It was Huber, 1787, who brought out some decision in regard to queens mating in confinement. He confined virgin queens and drones of all ages and made experiments in all seasons. He thought he detected a sort of union between them, but so short

and imperfect that he doubted if it had impregnated the queen. To settle the question, he confined the queen to her hive for more than a month, but found her sterile.

This was before Huber had demonstrated that the queen bee mates in the air and that the **drone dies** (Dadant's translation, p. 10).

I think this shows Davitte was honestly mistaken, but too careless or incompetent to make a conclusive experiment.

He closed the front entrance of his hive so neither a queen nor a drone could pass. He does not say how, but evidently not by a queen excluder. The queen and drone met in the air, clasped and fell **nearly to the ground**; if the mating was successful the drone **should have died**. If the drone had died, Davitte would surely have reported it.

I have read, and it is probably true, that the drone must fly at a high speed in order to fill the air sacks, causing enough pressure to extrude the male organs at the instant of mating, seemingly impossible in a limited space.

However, Davitte had seen them clasp and jumped at the conclusion that it was a successful mating. The queen, he says, "returns home and in three or four days is laying." She should have been laying in two days.

Just here is where Davitte probably made another mistake. After a queen mated he, no doubt, widened the entrance to the hive to give more room; this would give the queen a chance to mate the same day or the next and still be laying in the three or four days he mentions.

Had Davitte used queen excluders to prevent his queens flying outside the tent and confined his queens after mating, he would have had a different result.

North Meets South

Last winter many "Yankee" beekeepers visited the South and acquainted and amused themselves with the peculiarities of that part of our country.

This last summer a prominent beekeeper of Georgia wandered off into the northern part of Michigan, and freely admitted that here indeed was also a part of God's country, in spite of its "peculiarities."

We "ribbed" him about his southern accent and phrases. One of us asked, "How does it happen that you

pack your honey in buckets instead of pails?"

"Well we find that buckets hold as much as pails and are just as cheap, and a darned sight more convenient. I don't suppose you would tote a tote? You say you draw a load of honey but you don't take a pencil and draw a picture of a load of honey do you? Maybe you'd get farther if you hauled that load."

The "ribbing" stopped.

Elmer Carroll,
Michigan.

The Other Side of the Filtering Problem

By H. W. Stewart,
Kansas.

IN your November issue, I notice that the article, "The Cellulose Method of Honey Filtering," is given first-place position. The importance of improved methods of refinement of packaged honey should no doubt be seriously pondered by every commercial producer. But we should not forget, while this filtering idea is in our minds, that there are, roughly speaking, two kinds of producers: The small minority, producing a very large tonnage, including also bulk purchase; and the great majority who may be appropriately termed small producers. A filtering plant, even on a small scale, like the one illustrated in Mr. Milkey's article, is more than likely out of range of the justifiable expenditure of the average beekeeper. And if that be true, then the little fellow is faced with two alternatives: either he must produce bulk honey and hope to find his outlet among those who are on a filtering basis, or he must with the simple methods at his command endeavor to offer a product which will continue to satisfy the requirements of a reasonably discriminating consuming public.

Contrary to the assumption that the filtered product will drive unfiltered honey off the market, I am convinced that the efficient little fellow need have no fear of losing his trade to his big brother. There are very proper grounds for such confidence. The charge that "there is a distinct and noticeable loss of flavor" in honey heated to 160 degrees F. by the ordinary method used by painstaking beekeepers is not well taken. I have heated a great amount of honey to such degree in sixty-pound cans, with the cap removed, and I have failed to detect any such alleged loss. On the other hand, a large producer and an apiarist of extended experience recently showed me several samples of bottled honey from different packers one of which, said the label, was filtered—surprisingly white and clear.

From this particular bottle he had used a portion, and I, pleased at its appearance, asked him how it tasted. He said: "Very much like corn syrup." The point is clear: the claim on either side rests on the highly variable element of "personal" taste. Hence, it would seem that the claim made for the "flash heating method" in the filtering process is not at all conclusive.

To a certain degree even clearness in honey, from the subjective standpoint, is also highly variable. That is, in the absence of the filtered product a good sample of unfiltered honey looks clear too. I have taken an eight-ounce bottle of my unfiltered light amber honey, laid the flat side of it on the reading matter of the Journal under circumstances of ordinary daylight, and I could readily read the printed page. The sixteen-ounce bottle yielded to the same test. In view of these facts, I do not expect to see my customers make any frantic efforts in pursuit of honey merely because it's filtered. And since filtering honey tends to rob it of its color-value, I am constrained to the view that an agreeable tint will be preferred by the consumer to one having little or no color at all.

The importance of "The Other Side of the Filtering Problem" is this: The army of small producers who constitute by far the greater part of the membership of beekeepers' organizations, and who no doubt make up the bulk of the subscription lists of the various beekeeping magazines, will as a rule have to carry on without the relatively expensive filtering plant. In making this appraisal, I am endeavoring, not to discredit any possible merits of the filtering process, but to show the small commercial producer how to stay on the job and continue to hold his ground. A good plan in preparing honey for packaging—and which is in no wise new—is, first, to see that honey is kept clean and well strained into the settling tank. I use two strainers, one a box affair fitted with bright screen wire, underneath which and bagging down several inches are two thicknesses of cheesecloth. The screen catches the coarser particles, leaving the cloth to intercept the finer ones. Of course both screens will finally clog and will have to be cleaned with warm water. After this operation the honey may then be drawn off into sixty-pound cans and stored pending the second operation. Sufficient honey should be left in the tank to hold back the floating scum, which at the clean-up will have to be skimmed off and disposed of.

The second process is to heat the honey in the sixty-pound cans to a temperature of 160 degrees F. For this purpose a water bath and gasoline burners answer admirably. A good sized wash boiler and a two-hole

gasoline plate should be the irreducible minimum, heating two cans at a time. With such a simple plant the right temperature can be reached in three hours or less. The heated honey is then immediately dumped from the cans through a single sheet of wet muslin into the tank, which should be equipped with an effective honey-gate at the bottom. It may then be drawn off into tin containers or bottles and allowed to cool. I prefer letting the honey cool in the tank, since there is a settling process going on even in the hot honey, adding to the clarity of the product. And here again, care must be taken not to draw the honey low enough to allow the residuum of scum to enter the container.

High quality honey treated in this way, carefully handled and labeled with neat—not gaudy—labels has been and will be, I believe, cheerfully accepted by discriminating users "regardless."

Seattle Pushes Honey to Fore in National Week

By C. M. Littelljohn,
Washington.

Promotion of honey was pushed to the fore extensively at Seattle in fine cooperation with National Honey Week this November. There was a honey and a honey specialty featured for each of the November days from the 10th to the 16th. A wealth of honey cookery and honey sales was embraced in this active seven-day period.

Because honey is really an important industry of the Pacific Northwest, where honey is produced in most every county of the state of Washington, Seattle made Honey Week count definitely with the housewives of the city, causing it to mean more in the Seattle cuisine.

Those with honey interests at heart had a busy program in developing new markets while widening extent of old, or showing those who are already good consumers of honey how they may become better ones. Thus they contributed in large measure to the success of National Honey Week within their own region, where many hives add to the richness of little farms in the outlying rural and suburban districts.

The week itself was packed with recommendations for the ambitious housewife, as well as the aspiring housewife with her fudge parties and candy making. Young girls were taught that honey makes the finest kind of fudge candies and other honey-sweetened confectionery that she may serve the Boy Friend, have

the Boy Friend sample and enjoy, or share in the pleasures of making, while demonstrating to the Boy Friend that she is an excellent cook. And how the Boy Friend liked his honey.

One of the prominent home economists of the city, whose word is Kitchen Law, had honey on the dinner menu for the entire week in a host of novel and appetizing ways. Honey was twins, in fact, on Monday, when it appeared in a special honey lemon dressing, and again in the dessert as a honey pumpkin pie that was a honey. Tuesday's dessert was a pear baked in honey cream. During the rest of the week there was a galaxy of honey Scotch sauces, honey baked apples, fruits canned with honey, honey dressings, honey fruit cocktails, honey muffins with hot fowl—but reader, you will be spared the rest.

It all goes to show, however, how a seven-day period this November was naturally "the sweetest week of the year," with pleasantest reminders and hints on the greater usage of honey in homes.

Office of State Apiarist

Ames, Iowa,
December 12, 1935.

A large number of honey producers have become interested in finding possible variation in resistance to disease among the bees in their own apiaries. This attitude is to be commended in so far as it indicates a true desire to aid in this work. This practice may come into conflict with the operations of the Inspection Service which has been developed for the protection of the industry. It seems desirable, therefore, to issue a warning to define the attitude of the Inspection Service relative to such a situation.

The following regulation is issued under the authority granted in Section 4039-A4 of the Foulbrood Law of Iowa. Whenever the Inspector is confronted with such a situation as an excuse for not cleaning up a diseased yard that it will be necessary to respect the following.

(1) Stock which is claimed to have merit for disease resistance must be submitted to the official station for further testing.

(2) The remainder of the colonies and equipment in the yard must be cleaned up as provided for in the Foulbrood Law.

(3) Any transfer of material to the official testing station must be under the supervision of the Inspection Service.

Given under my hand seal, the 12th day of December, 1935.

(Signed) F. B. PADDOCK,
SEAL State Apiarist.

Present Status of the Marketing Agreement and License for Package Bees and Queens

Excerpts from an address by R. H. McDrew, Marketing Specialist of the Agricultural Adjustment Administration, before the Southern Beekeeping Conference held at Nashville, Tennessee, December 2, 1935.

THERE has been a lot of "bull" and "baloney"—to say the least, misinformation—circulated during the past few months with reference to the legality or constitutionality of the entire Agricultural Adjustment Act. Since those sections of the law authorizing marketing agreements are a part of the Agricultural Adjustment Act, it seems to be rather generally assumed by those unfriendly to the Agricultural Adjustment Act that, if the Hoosac Mills case, now pending in the Supreme Court, to determine the validity of processing taxes is decided against the Government, the whole Agricultural Adjustment Act will be thrown out of the window. This assumption is wholly unwarranted and has no foundation either in law or fact, as I will explain later.

First of all, pardon me for stating that I have a Doctor's Degree in Law and practiced that profession continuously for ten years. I mention this fact solely for the purpose of indicating to you that I may have some understanding of legal problems associated with the work that I have been doing for the Agricultural Adjustment Administration during the past two years.

No one can know at the present time what action the Supreme Court will take with reference to the validity of processing taxes, for, indeed, it is doubtful if any individual member of the Supreme Court knows what the decision will be. But, for the purpose of this discussion, let us assume that the Supreme Court will in due time decide that processing taxes were illegally levied as contended by the Hoosac Mills. That assumed unfavorable decision would have no more effect upon that part of the Agricultural Adjustment Act which authorizes marketing agreements than the decision of the Supreme Court in the Lindbergh case as to the legality of the conviction of Bruno Hauptmann. The Hoosac case involves the taxing power of the Government, the delegation of the power to levy taxes, and perhaps other legal or constitutional ques-

tions. The section of the Agricultural Adjustment Act which authorizes the Secretary of Agriculture to enter into marketing agreements is entirely disassociated from the provisions of that Act authorizing the levying of processing taxes.

It is important, therefore, to note here that one section of the Act provides: "If any question of this Act, or the applicability thereof to any person or circumstance, is held invalid, the remainder of this Act and the applicability of such provision to other persons or circumstances shall not be affected thereby."

I cannot emphasize too strongly that there is not now pending in the Supreme Court, or any lower Federal Court to my knowledge, any case which questions the legality or constitutionality of that section of the Agricultural Adjustment Act which authorized the Secretary of Agriculture to enter into marketing agreements with the handlers, shippers, or producers of agricultural products.

While it is true that the Agricultural Adjustment Act was amended in some particulars since the Marketing Agreement and License for Package Bees and Queens became effective, yet the amended Act in no way affects marketing agreements or licenses in effect prior to the time of such amendment. The amended Act specifically sets forth: "Nothing contained in this Act shall (a) invalidate any marketing agreement or license in existence on the date of the enactment thereof, or any provision thereof, or any act done pursuant thereto, either before or after the enactment of this act, or (b) impair any remedy provided for on the date of the enactment thereof for the enforcement of any such marketing agreement or license, * * * * *

The fact is that, from both a legal and practical standpoint, the Marketing Agreement for Package Bees and Queens is nothing more than a plain simple contract—just a contractual obligation between the shippers and the Secretary of Agriculture whereby the shippers agree to do certain things, the purpose of which

is to provide the machinery for the improvement of prices of package bees and queens. The files of the Agricultural Adjustment Administration now contain copies of this Marketing Agreement—which might be well termed a marketing contract—which have been individually signed by more than ninety per cent of the present shippers of package bees and queens.

These signed agreements or contracts are just as valid and legally enforceable as any contract which a shipper might make with his neighbor for the purchase or sale of honey or any other product.

Now, if you, mister shipper, signed this agreement—this contract regulating the sale of package bees and queens—you solemnly bound yourself to do certain things. Let us examine this Agreement for a moment to ascertain some of the more important things which you agreed to do. With reference to sales prices, section I of Article III of the agreement provides: "The contracting shippers agree that the Control Committee shall establish, subject to the approval of the Secretary, a schedule of prices which shall be the minimum prices at which they will sell or offer for sale package bees, nuclei and/or queens following the effective date thereof, and that said schedule of prices shall remain in effect until altered, amended, or canceled by the Secretary or by the Control Committee with the approval of the Secretary."

The Control Committee has, with the approval of the Secretary of Agriculture, established a schedule of prices and all shippers have received due notice of these prices. Furthermore, those prices will remain effective until such time as the shippers are notified of changes or cancellations. Therefore, mister shipper, when you signed this Marketing Agreement you agreed to abide by these established prices.

Likewise, with reference to terms of sale for package bees and queens, "The contracting shippers agree to replace without charge, all queens

which arrive dead or in a deformed or abnormal condition." Also, "The contracting shippers agree to" make certain replacements under certain conditions when a large percentage of the bees arrive at their destination dead. Furthermore, under section 6 of Article IV you agreed "not to allow any discounts, commissions, or rebates, extra packages, nuclei, or queens, or grant any special concessions whatsoever that would reduce the prices below those established by the Control Committee with the approval of the Secretary."

You also agreed not to indulge in false, untrue or misleading statements or advertising with reference to your business or the business of any other shipper.

In the matter of reports (see Article VI of the Agreement) you agreed to make certain reports to the Secretary of Agriculture upon his request. Although the Secretary of Agriculture has not made any request for information up to the present time, it may be possible that he will do so, if section 5 of Article VI is not complied with by shippers, which provides as follows: "Each contracting shipper shall report to the Managing Director his or its total receipts, total shipments and amount of unfilled orders, and such other information necessary to the enforcement of this Agreement requested by the Managing Director on printed forms mailed for this purpose *****."

Under Article IX of the Agreement, you solemnly agreed that "the Control Committee is authorized to incur such expenses and make such expenditures as may be necessary in the performance of its functions and each contracting shipper shall be subject to his pro rata share of the cost of establishing and maintaining this Agreement."

The Control Committee took action under this authority which you gave them and made assessments for the necessary expenses which you agreed to pay when you signed the Agreement. There is no legal way by which you can avoid payment of this assessment unless you were a minor or otherwise legally incompetent when you signed that document.

It has been reported that some of the shippers who have signed this Agreement have not paid their share of these authorized expenses because some political or other rumor has told them that the Agricultural Adjustment Act was about to be declared unconstitutional, which would result in these shippers' contracts (Marketing Agreements) being shown to be illegal. As I have emphatically stated before, this is a legal impossibility. For it is one thing to attempt to force someone to do a thing which he has not agreed to do, but it is quite another to require an individual to do what he has agreed to do. There

may be some legal question about the former, but none about the latter.

The Secretary has legal authority to cancel this Marketing Agreement and probably would cancel it if a majority of the shippers desired that such action be taken. However, statements made to me today by shippers and representatives of shippers indicate that a very large majority of

the shippers desire this Agreement to be continued. If that is the desire of the industry, then certainly appropriate action should be taken to require all shippers to comply with the provisions of this Agreement which they so anxiously and willingly signed when the prices of package bees and queens were not more than sixty per

(Please turn to page 36)

Bee Marketing Agreement in 1936

THE Bee Marketing Agreement will continue to be in effect in 1936. There has been considerable confusion in the newspapers, in the minds of the package bee and queen shippers, as well as among the honey producers, as to whether or not the Bee Marketing Agreement would continue to be effective.

Marketing Agreements under the Agricultural Adjustment Act have not been tested in the Courts, nor is there anything, in any of the Courts, to be decided with reference to the constitutionality of Marketing Agreement.

In case the Supreme Court should declare the processing tax unconstitutional the Marketing Agreements would not be in any way affected, and since there is nothing in the Courts pertaining to a decision regarding Marketing Agreements, it is evident that there is no question of their continuing. Furthermore, the Bee Marketing Agreement is one of the many which did not have a date of termination, so that it may continue from year to year with the consent of the Control Committee and the Secretary.

The State Beekeepers' Association in the following states, namely: Alabama, Georgia, Mississippi, Louisiana, Texas and California, have expressed a desire to continue with the Bee Marketing Agreement. The Southern Beekeeping Conference, in the Nashville meeting, December 2, 1935, voted the following resolution urging the Control Committee to continue with the Bee Marketing Agreement.

"Whereas the Marketing Agreement for Package Bees and Queens has been of great benefit to the Shippers of Bees and Queens, through price stabilization, by changing the red-ink years of 1932 and 1933 into reasonably profitable years of 1934 and 1935; and

"Whereas it appears that this Marketing Agreement will, if its provisions are observed by the industry, continue to be of substantial benefit to the industry during 1936 by preventing destructive price cutting and by protecting the shippers from being

over-reached by some large buyers who sometimes made misleading representations as to prices quoted; and

"Whereas it is believed that over ninety per cent of the shippers favor the Marketing Agreement and recognize its benefit, but, that due to fears that other shippers may not be complying fully with its provisions, a few of such shippers are failing in some respects to comply with the terms of the Agreement; and

"Whereas it is essential that all shippers be required to comply with the Marketing Agreement otherwise the whole program will break down;

"Therefore, be it resolved that the Control Committee be requested to respectfully urge the Secretary of Agriculture to take such steps, in the Federal Court or otherwise, as may be necessary to require all Shippers to comply with the provisions of the Marketing Agreement made pursuant to the provisions of the Agreement."

Mr. R. H. McDrew of the General Crop Section advised with the Control Committee pertaining to the problems of the Bee Marketing Agreement. It was his opinion that there was nothing in sight to prevent the Bee Marketing Agreement from continuing. With all these facts before the Control Committee, in their annual meeting at Nashville, Tennessee, December 2, it was deemed advisable to continue with the Bee Marketing Agreement in 1936.

The Control Committee decided to keep the prices of package bees and queens the same in 1936 as they were in 1935. The dealer's discount will be continued in 1936.

The Managing Director was authorized by the Control Committee to release this information to the various bee journals for their January number. It was the thought of the Control Committee that the release of this information would tend to clarify the many questions pertaining to the Bee Marketing Agreement for 1936.

J. M. Robinson,
Managing Director.



Further Modification of the Modified Dadant Hive

By Geo. Harrison,
Virginia.

FOR many years, a single shallow brood chamber was considered the last word in hive construction. Then Mr. Demaree placed another body on the first one, making it a two-story hive and thereby increased his production markedly. This form of hive has been adopted by a large number of beekeepers, and with its variation, the one and one-half story hive, is considered by many beekeepers to be the best hive today.

Recently a hive containing eleven frames spaced approximately one and one-half inch apart instead of the conventional one and three-eighths inch and with frames two inches deeper than the standard; and designed to contain the entire brood nest together with sufficient stores for winter in one body has attained considerable popularity. This hive is known as the Modified Dadant.

I have had Modified Dadant hives in use for a number of years alongside the standard eight and ten-frame hives, both single and double story. The strength of the Modified Dadant colonies in the spring is noticeably better than the standard hives and the average surplus is greater. This is accompanied by easier handling during the honeyflow due to the absence of the heavy, full-depth food chamber which with every inspection has to be lifted off the hive and replaced. This lessening of the labor for each colony enables one to handle more bees and produce more honey with the same effort.

There is another difference between the several hives that does not seem to bear any relation to the spring strength. As the season advances the large brood chambered Modified Dadant hives seem to forge ahead of the ten-frame hives and the ten-frames ahead of the eight-frame ones. At the end of a good season, I might compare the surplus gathered by the bees of the several types of hives to stair steps. The largest surplus is on the Modified Dadant hives, then the ten-frame and last the eight-frame.

To illustrate; let's take a yard that has access to sweet clover. At the beginning of the flow, all colonies seem overflowing with bees. They have all been doing good work on the earlier flows and the spring difference, if any, apparently has disappeared, but towards the end of the

sweet clover flow, it becomes apparent that the standard hives have dropped back in proportion to their size. Perhaps it would be better to say that the larger hives have forged ahead.

Now why is that? The only explanation I have is that the queen is unrestricted in egg laying in the Modified Dadant hives where a good queen might have had to curtail her laying to some extent in the smaller single ten-frame brood chamber. This means that the worn out workers were more rapidly and completely replaced in the large hive.

If this is true, why not keep a ten-frame colony in a two-story brood chamber? Because at the end of the flow the lower story will be almost empty of bees and honey, but very much filled with pollen. The upper story will contain the brood nest with but little honey for winter.

In other words, except for a short period, the lower story of the two-frame hive is a useless piece of equipment. Even the pollen stored therein will be molded before spring and of no value. With an excluder between the first and second stories, the queen occupies the first from the beginning of the flow and the second is used for the storing of winter supplies. Any pollen stored in the top story is mostly under honey and safe from mold.

So far the evidence seems to be all in favor of the Modified Dadant hives but in this part of the country, it has a serious fault which it does not seem to have in the North. After some seasons, the brood chamber is almost destitute of honey when the colony is run for extracted honey and never is it heavy enough to winter without considerable feeding.

For some reason the bees here will not store enough honey for their own use, for which there is plenty of room, around the brood in the lower hive body. We have a period of about two months in the summer when there is nothing available in the field. Too frequently of late years this condition has been extended through the fall.

During this dearth period, robbers are watchful and colonies constantly have to be kept on the alert to repel them. Perhaps that is why they dislike to store honey below when conditions are to their liking above. Sec-

tion honey producing colonies, however, are usually heavy after the surplus is removed.

In the North, there may be a more or less continuous flow which overcomes the reluctance of the bees to store honey close to the entrance. At any rate reports have come to me from the North which indicated that after the crop is removed, the Modified Dadant brood chamber is well supplied with honey.

There is another count against this hive in this part of the country. While it is less costly than the two-story ten-frame hive, it is still a costly hive. If the brood chamber is larger than the queen can possibly occupy, and the bees will not use the extra space for the storage of their winter supplies; why have this extra space? Have those empty side combs anything to do with better wintering? I do not believe so.

Now what is to be done? Shall we continue using a hive larger than necessary for the sake of easier and quicker manipulation and a somewhat larger surplus and be required to feed heavily for winter or shall we go back to the standard hive which, if used in the two-story form, requires no feeding?

I have debated this with myself for several years and last year the new Modified Dadant depth ten-frame width super containing nine Modified Dadant extracting frames gave me an idea.

Why not use the ten-frame width Modified Dadant depth Quinby hive body with nine Modified Dadant frames as a brood chamber? This hive would have all the advantages theoretically of the Modified with none of its disadvantages. The extra combs would be eliminated, the hive would be cheaper, you could use regular ten-frame excluders, regular ten-frame top and bottom and have two less frames.

One could feed such a colony for winter or use a shallow super as a food chamber. I think I would try both ways and compare results, even though I do object seriously to feeding. I think I would use the new Modified Dadant depth shallow super as mentioned above for the food chamber. Such a hive would be more suited to the production of section honey than the regular modified.

This hive is only new in assembly

as all parts are in regular manufacture. It has a big advantage that if it should prove unsatisfactory, all the parts could be used otherwise and if desired, the Quinby depth body could be cut down to the regular standard.

Those who, like myself, are equipped mostly with ten-frame hives, can change to Quinby nine Modified Dadant framed brood chamber easily. With the use of a saw, a ten-frame standard body can be ripped to form a ten-frame Modified Dadant extracting super and the piece removed stapled to another full ten-frame body to form a Quinby depth body. Even the standard frames can be used by zipping them off to Modified Dadant extracting depth. Remove the bottom bar from the cut off parts of the side bars and nail it back on.

Some will ask—Why not use the regular Jumbo hive with its ten frames spaced one and three-eighths inch apart? Because I like the wider spacing. The Dadants claim it helps to control swarming. It may to some extent but there is another advantage which may be the real reason bees winter better in Modified Dadant hives. Wider spacing allows bees to crowd between two combs and allows the comb above the cluster to be thicker and contain more honey, just as we space our super combs eight and nine to a ten-frame super for the same reason. It puts more honey between the winter cluster and the top bars of the frames.

Also, does the wider spacing with its consequent greater number of bees between the frames allow the bees to breed earlier in the season? I don't know but an intangible something does make colonies on such combs build up faster. There is no longer any question of this in my mind.

Another thought occurred to me recently with regard to the comparatively poorer wintering in two-story hives as compared to the single story deep hive. When the excluder is removed from between the two stories in late summer or fall, the brood nest is formed in the lower story with often a full body of solidly sealed honey above. I believe that the bees spend at least a large part of the winter below and only gradually work up as the stores are consumed. Of course when there is open comb in the lower part of the top body, the upward progress is faster, but what effect does this large empty space above the cluster have on wintering? I am not certain but I do not think it helps.

Recently I had an experimental yard of thirteen colonies located on a dirt road. They were in single ten-frame hives. I did not get to feed them until late and used ten-pound pails for this purpose. The weather turned bad and the roads worse be-

fore I got back to remove the feeders. Thinking the feeders were over the opening in the inner cover, I decided to let them ride instead of going back over the bad roads. When I went to them the next spring, I was surprised to find that the inner cover had been removed and the feeders placed right on the top bars. The result was disastrous.

Of the eight that still had the feeders on, three were dead and the remaining five were of no value. Only the queen and a handful of bees remained. The three colonies without the feeders on them all winter were in nice shape. The others were apparently in just as good shape to start.

Does this experiment teach anything other than the fact that you can't be careless in beekeeping? (Or maybe that you shouldn't have thirteen colonies in a yard.) As far as I am concerned, the empty body above these bees at once reminded me of the bodies filled with honey empty of bees above the two story colonies.

All my experience tends to show that bees winter better in single story deep comb hives, and I prefer the wide spacing of the Dadants. That the colonies maintain their strength better in a hive larger than a single story ten-frame hive during a long flow. That if, for convenience, a food chamber must be used, a shallow one is better than a deep one, provided it contains enough honey. That a shallow food chamber is easier to lift off and on a hive than a full depth body, allowing one to handle more colonies with the same effort. That since the bees won't store their winter supplies in the brood chamber, when running for extracted honey in this part of the country, the Modified Dadant hive is larger and more expensive than necessary, and that a ten-frame width hive Modified Dadant depth containing nine Modified Dadant frames will probably prove ideal where conditions are such that the bees won't fill those combs in the brood chamber that are not used by the queen with honey.

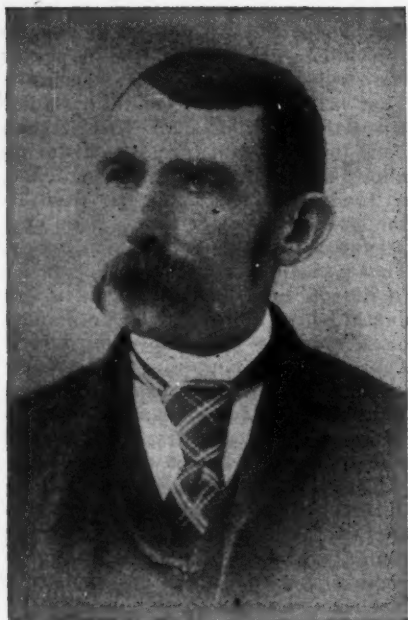
Straw Skep and Honey Comb



HONEY PACKERS, Inc., New York, feature this unique honey jar in their National Honey Week Message to the trade. Falling in line with the great honey publicity of this week, stores are urged to stock up with this "newest and finest honey package; five-ounce and fifteen-ounce Bee Skep Jars—quick turnover and

profits on a sales appeal honey package."

Note that the top of the jar is skep design while the lower part is comb design. Note the modern label, the bee comb top and the sans-serif "honey." It's a "honey"! Congratulations, friend Hoffman.



Lives of Famous Beekeepers

By Kent L. Pellett,
Iowa.



J. H. MARTIN—The Rambler 1839-1903.

Often called the Mark Twain of the bee yard.

The pictures used are all taken from "Gleanings in Bee Culture."

IT is a gathering of beekeepers in California in the nineties, perhaps one of the first in that feverish land where it is being discovered that beekeeping has a golden future. The beemen may not know much about conducting a meeting, but they are doing plenty of talking. They pay little attention to one obscure individual who is backward about airing his views.

Then somebody introduces him as the "Rambler" and a hush falls over the group.

After that whenever a question is raised everybody looks to the slender man to answer it, and when he speaks all are at respectful attention. He does not look like his pictures in Root's paper, *Gleanings in Bee Culture*. His mustache is not so large or so drooping. And where are the checkered pants, the cutaway coat, the stovepipe hat, and the umbrella? From his cartoons they had imagined him somebody splendid and terrifying, but here he is, as common as any in the group. They take him to their bosoms.

Soon the Rambler gets out his camera, "takes some pictures," and writes another one of his rambles and sends it to *Gleanings*.

Mr. George Pfeiffer kept forty colonies of bees in a cozy place in Temeschal Canyon, miles from any other habitation. He lay down one summer afternoon for a nap on his lounge fashioned into the side of the mountain. He was suddenly seized by the shoulders and shaken. He rubbed his eyes open to find himself staring into a camera held by a tall, grinning, mustached individual. "My gracious is that the Rambler?" he shouted.

It was the Rambler. Beekeepers in remote places of the country did not know at what time they might

find his camera pointed at them. "Well, I declare," said Mr. Pfeiffer when he had his breath, "I am so glad you called. And you are really one of us." And they fell on each other's necks for joy—or so the Rambler wrote. The beekeeper offered his guest some milk from a bottle, but the Rambler had been drinking sulfur water and had to refuse.

Over a rude table by a coal-oil lamp in his own cabin that night the Rambler wrote about his visit to Pfeiffer's apiary, made a rough sketch or two, and thus completed another ramble.

The 1890's, for all the hard times and poor honey crops, saw as much good writing by beekeepers as at any time since the beginning of American bee magazines. Many practical men contributed. There were A. I. Root, Dr. C. C. Miller, G. M. Doolittle, James Heddon and W. Z. Hutchinson. And, occasionally, the Dandants.

But it was to none of these the reader first turned when each month he looked inside the fresh pages of *Gleanings*. He read first tales of the Rambler. After he had discovered into whose apiary the Rambler had last set his foot, he turned to weightier matters.

The Rambler was the original roving reporter, the first field-man for a bee magazine. At one time or another he visited the apiaries of most of the prominent beekeepers of the United States, and hundreds of smaller apiaries as well. A tall spare man, very modest and quiet, he quickly won the confidence of the beekeepers he met. He had a great love for the quaint and humorous and he wrote of his visits in a style that quite captivated his readers. His drawings were humorous but apt. He always portrayed himself as a tall

fellow with a rakish grin under drooping mustache and stovepipe hat. The checkered pants, the long coat, the umbrella and the camera figured in these drawings. In the day of the horse and buggy and the bicycle, he succeeded in placing in touch with one another the beekeepers over the whole vast country, and made known the peculiarities of the different regions.

J. H. Martin was born at Hartford, N. Y., in 1839. He was an only son. He spent some time at a neighboring academy and attended the Fort Ed-



Rambler, as he pictured himself.

ward Collegiate Institute. After finishing school he returned home and worked on his father's farm. But he was frail and did not stand the heavy farm work. His grandfather had been a beekeeper, and young Martin at an early age had become interested in his apiary. He established his own apiary of about 200 to 300 colonies after he returned to the farm. For about fifteen years he averaged nearly 7,000 pounds of extracted honey each year.

In 1868, he married Miss Libbie Celesta Edwards. They made their home on his father's farm. The house was a typical eastern homestead, large and square and white, among venerable maples. A turnpike led to the nearby village, and was lined on either side by basswoods of Martin's own planting. Close by the house was the apiary with a high lattice fence and an arbor of grapevines, shaded by plum trees.

Martin built with his own hands the apiary and its equipment, the hives and the bee house and the high lattice fence. He was active in the affairs of the town, was a deacon in the Congregational Church and served as superintendent of the Sunday school.

The couple were very happy in their home.

But they had a child which died at birth, and after thirteen years the wife died suddenly, following only ten days of illness. Martin went to live with his aged parents, and cared for them until they, too, died two years later. He disposed of all the farm but the apiary, which he kept for a while, and sought release from his sorrow by wandering about and visiting other beekeepers.



Rambler in solitude in the big city.

What he must have suffered was revealed later in a letter to a friend who had lost his helpmeet. Martin told of his own married life and his wife's death, and said, "Ever since, I have been a homeless wanderer. I know how sad, too, your homecoming will be after you have been for a day away—no dear loving face and smiles, and a kiss to greet you."

At this time Martin began writing his articles for *Gleanings in Bee Culture*. In June 1888 he sent to Editor Root a batch of three stories about his visits to beekeepers in northeastern New York state, adding some rough pencil sketches of himself and his hosts. He put in a note to the editor, "I doubt whether you can use this stuff or not."

Root used the stories, including the drawings which he sent to R. V. Murray, a Cleveland engraver who remodeled them, and wrote for more. Another feature thus was added to the magazine, which became for fifteen years almost as much of an institution as *Gleanings* itself, ending only at the Rambler's death from malaria in Cuba. As the readers became familiar with the sketches, he headed each one "Ramble" and its number in the series. The last he ever wrote was "Ramble No. 213." Starting out in New York state he widened the scope of his visits until they were taking in a large part of the northeastern United States.

He told in a humorous manner incidents that happened to him. While climbing Washington monument, he became out of breath and was ready to quit until a friend said there was a bee skep in the scroll work far above, when he pulled himself up the remaining distance in a hurry. He even called on the president of the United States during one of his handshaking days. "The meeting with President Harrison was very cordial on my part," he wrote. "I expected he would say something about the McKinley bill keeping queen bees out of the mail, but he said not a word. . . . My umbrella interfered a little with the proceedings, and the big prize fighter at the right of us began to work up his muscles. I bade President Harrison good-bye."

The Rambler was cast loose from the moorings of home, and his wanderlust urged him into wider and wider fields. He went to California, where people were beginning to settle down after the excitement of the gold rush to such prosaic occupations as beekeeping and fruit growing. He visited and wrote about all the leading apiaries enroute to the coast. Upon his arrival in Sacramento Valley, he worked three months in a box factory to gather some funds. Then he was "turned loose upon the beekeepers."



Hail to the state line. On a bicycle journey.

He described the peculiar conditions he found. Most of the beekeepers were "batching." Almost half the cabins in rural California had lone occupants. Seven beekeepers grouped themselves about him at a convention in a St. Elmo hotel. One of them said he was a "batch," then the other six admitted that they also were "batching."

The Rambler told how eight horses hitched to a huge wagon with a trail wagon attached behind hauled California honey to market, and thus cut down on the number of drivers, who demanded a hundred dollars a month in wages.

In a lonely cabin in San Bernardino county, he encountered a man who combined the jewelry business with the raising of Mexican hairless dogs. The Rambler held his nose long enough to get a description of them. "A Mexican hairless dog," he wrote, "when his fancy blanket is off, is the color of an angleworm. They are very transparent. You can see through them except in the region of the stomach. They never bark unless the temperature is above one hundred degrees, and just one bark exhausts them for a whole day. They are useful only for ladies with perverted tastes. They always smell bad and fleas will have nothing to do with them."

The Rambler rented an apiary in the hills near the San Bernardino mountains, where he built a rude cabin and workshop a mile from any other occupied dwelling and settled himself down for the joys of solitude and nature. He added to his house a spring bed, a chair, a table and an oil stove. The shack was not high enough so that he could stand erect,

but he wrote that he had all outdoors and plenty of sunshine, so he tolerated his quarters. He examined his colonies in mid-winter and found them conducting themselves about like they would in May in the eastern states.

He had the troubles of the beginner in cooking. "The first thing that dawns upon the stomach of the fresh bachelor is the lack of knack in cooking," he wrote. "In the absence of milk and eggs, the pancakes will persist in being soggy. So canned victuals are used and good bread. . . As Sancho Panza blessed the man that invented sleep, so I shouted several times with unction, 'Blessed is the man that invented bread and butter.'"

The Rambler's cabin and the apiary were a full mile from water, which he had to haul with a rickety wheelbarrow and two five-gallon honey cans. Sometimes he hauled water for the bees, but other times he made them rustle for themselves, since on warm days they would consume half a barrel. "I wish to remark," he said, "that it is no pastime to wheel water a mile when the air is full of gnats and flies, anxious to lap the sweat from the laborer's brow when both hands are employed on the handles of the wheelbarrow."

But the life of a hermit was not altogether suited to the Rambler. He walked five miles to Riverside, where he spent his Sundays, and when he grew tired of his existence he rented a room for a few days in town. At times he would leave the apiary entirely, visiting among the beekeepers in California and the neighboring states of Washington and Oregon.

After his wanderlust had spent itself he would settle down in another apiary, usually with 300 or 400 colonies of bees. He was handy with tools, and made many improvements of his own, including a glossameter for measuring the length of bees' tongues.

The Rambler remained in California for ten years, then he wrote Editor Root that he again had an itch to travel, and that this time he would like to see Cuba. The editor was enthusiastic. So the Rambler went to Cuba in 1902. He made a series of rambles, then decided to keep bees for himself at his cabin at Taco-Taco. He purchased 100 nuclei, which he increased to 300 colonies. Late that season he wrote to Gleanings that due to the press of work, he would discontinue his rambles until after the honey season.

Not many months later malarial mosquitoes got in their deadly work. He went to a hospital where he contracted pneumonia and died.

They buried the Rambler beside his wife in the cemetery at Hartford. He was with her again after twenty-two years of wandering.

American Honey Institute



ENOUGH SAID!

American Honey Institute Looks Back on 1935

WHEN this copy reaches you, Christmas will once more be a memory and the New Year celebration only an echo. We have put 1935 on the shelf, so to speak and after taking an inventory of our profits and losses, we find that **in spite of** some things and **because of** others, 1935 has been a splendid year.

American Honey Institute would like to have been able to wish each of you personally, a Merry Christmas and a Happy, Healthful, and Prosperous New Year but since that is a human impossibility, we are thankful for this medium through which to convey our sincere wishes for your health and happiness throughout 1936.

As we look back over this past year, we find that it has been a most delightful one. Yes, we have been in a few tight places, some of them so close that there was scarcely room in which to turn around. Once we had to shout for help. We were rescued in the nick of time and were again merrily on our way.

We get a thrill thinking of all the nice things that have happened during this past year particularly the nice things that you beekeepers have done for us. We hope you too will be pleased with the things that have happened because you are an essential part of the Institute and have been instrumental in making this a successful year. We wish it were possible to discuss events of 1935 in detail but if we did it would make copy for a book. We would however, like to mention the high-lights.

First thing after the New Year, we moved into larger quarters and that meant so much to us. The hustle and rush of preparing the annual report for your approval. The introduction all over the country of Hon-

ey Crushed Wheat Bread which in just a few months consumed millions of pounds of honey. The increased use of honey in other bakery products. Valuable contacts were made with large commercial companies which resulted in newspaper, magazine and radio publicity for honey. Some of the companies who used honey in their national advertising were Swift & Co., General Mills, Fleischman Yeast Co., Pillsbury Flour Mills, Kelloggs, Aunt Jemima Pancake Flour, California Fruit Growers Exchange and others. It would indeed be difficult to estimate how many thousands of dollars of space was given to honey in the Chicago Tribune alone by its food editor, Mary Meade, not to mention the fine articles appearing in the San Francisco Call-Bulletin, Detroit Free Press, New York Times. During the month of March when the market is more or less at a standstill, more than 5,000,000 individual copies of several magazines carried honey copy.

Twelve outstanding food specialists accepted our invitation to serve on the Advisory Committee of the Institute. We were very pleased to have those interested in the organization of the Canadian Honey Federation visit our office. The privilege of entertaining nationally known Home Economists on several occasions was most enjoyable and worthwhile. The organization of several women's auxiliaries in several states. The appearance of new honey products on the market. The excitement of releasing our first real honey recipe book, "100 Honey Helpings" and the satisfaction of receiving so many nice comments on it. Evidence of increased interest on the part of commercial companies in our cookery contest and annual convention exhibits. A most

interesting and unusual national convention program and a fine meeting. National Honey Week sponsored by many individuals, county and state associations, and commercial companies. Mrs. Jensen's tour of the western states, attendance at the Southern States Conference and New York State convention. The splendid work she did with beekeepers, state leaders, heads of schools of home economics, home demonstration agents, and club leaders. As we reach this point we are back to about where we started—the assembling of another annual report and Honor Roll, copies of which you will receive in the near future.

Do you wonder that we consider 1935 a year full of thrills?

A Golden Wedding—Plus

Just as this was being written a letter arrived from our good friend S. C. Frederick in Kelso, Washington, telling us that on January first was their **fifty-second wedding anniversary**. I am sure all of you will join with us in wishing Mr. and Mrs. Frederick health and happiness for years to come.

Can anyone beat this record? Does the Institute have a member who has celebrated more than his fifty-second anniversary?

The Institute wishes you all a very **successful and happy New Year—large crops—better prices—wider distribution of honey!**

The Institute's "Everlasting Members"

It is again time for the compilation and printing of another American Honey Institute Honor Roll. We like to think of this Honor Roll, not merely as a piece of paper upon which is printed the names of our members but as a foundation of the Institute and each name that appears there an individual stone in that foundation which is absolutely necessary to the permanency of the institution. If you were to make a study of this foundation—the Honor Roll—of these past five years (1930 to 1934) you would find many stones which have fallen out and that have had to be replaced by new ones. Some of them being replaced several times during these years. However this study of our foundation shows what might be called corner stones that were put there the first year it was laid and have remained there during each successive year.

American Honey Institute would like to take this opportunity to pay tribute to those members who have been with us since the printing of that first Honor Roll. However, before the names of these members are listed, we would like to pass on to you some of the things the study of the Honor Rolls for the years 1930

to 1934 has revealed. We thought these statistics exceedingly interesting and we hope you will. There have been 1793 individual members of American Honey Institute during this period of time. When this study was made, all 1935 memberships were not yet received so this year was not included. Of the total—1793—we found seventeen names which appeared on **each** Honor Roll. Forty names appeared for four years; 110 for three years; 354 for two years and 1272 for but one year.

It is to the seventeen members that we wish to direct your attention. The tribute to these individuals is one of **appreciation and gratitude**, not only for their financial support but for their **keen interest and cooperation**. This expression should be seconded by everyone who has any connection with the production, marketing, or consumption of honey. Regardless of the organization, it requires cooperation and "stick-to-it-iveness" on the part of everyone concerned to make it and keep it a going and growing organization and these folks surely have done their part.

To each and everyone of the 1793

persons who at one time or another have been members of the Institute, credit is due for making the program possible. Another time we would like to make known those forty individuals whose place in the Institute is also one to be recognized because they have been with us for four years, which is indeed a fine record.

To you Mr. C. E. Lush, Orange, California; Mr. J. W. Vasey, Miramar, California; Mr. C. J. Anderson, Morris, Illinois; Mr. James Dobson, Suttons Bay, Michigan; Mr. Floyd Markham, Ypsilanti, Michigan; Mr. William Martin, Owosso, Michigan; Mr. David Running, Filion, Michigan; Mr. F. W. Schroeder, Detroit, Michigan; Mr. Iver Anderson, Lake Benton, Minnesota; New Jersey State Beekeepers' Association; North Carolina State Beekeepers' Association; Mr. L. A. Mills, Greenville, Ohio; Mr. J. F. Moore, Tiffin, Ohio; Mr. H. A. Fritz, Bath, Pennsylvania; Mr. E. E. Seitz, Glen Rock, Pennsylvania; Mr. Anthony Moberg, Brookings, South Dakota; Mr. T. W. Burleson, San Antonio, Texas; American Honey Institute wishes to extend thanks and to show its appreciation for your exceptional loyalty.

Ohio State Fair Exhibit



R. D. HIATT, of Columbus, sends this clear picture of his exhibit made this year at the Ohio State Fair.

"The color scheme was blue and yellow throughout. The display was awarded first prize in the grand prize competition, with seven competitors from all the best honey producing sections of Ohio.

"The picture was taken at an angle to avoid the post so the result is distortion. The display is twenty feet long and the wall above the shelf is seven and a half feet. The dark looking box in the middle of the lower shelf contains a little white Dutch clover in bloom. It made quite a hit."

FROM THE LITTLE BLUE KITCHEN



By Lida Keck-Wiggins.

IT may be an awful old-timer, but I still Honey Lady's going to say it . . . just can't help it, in fact, so here 'tis—"Happy New Year," and, to go Tiny-Timmish once again "God bless you one and all."

If it's true, as most everybody agrees it IS, that "an apple a day will keep the doctor away," what CAN'T be said for the tummy which treats itself not only to said apple but also to a portion of honey daily as well? With that little query in mind Honey Lady has been busy with the honey pots and the apple basket and brings Blue Kitchen for January a few apple-honey recipes which will help everybody start the New Year right gastronomically at least!

First let's look into the possibilities of a chicken salad with honey dressing, and with the apple ingredient. We can call it

Apple Chicken Salad Honey Dressed!

First of all get out whatever sort of steamer you happen to have for you're going to need it pronto! Then select as many apples as you wish salad portions and perhaps "one for the pot!" Yes?

Scoop out the cores of apples and fill these with finely minced cold chicken mixed with equally finely minced green peppers, seasoned with salt and moistened with cream. Cook apples in the steamer until done. Then either put them on chopped ice or in your electric refrigerator for chilling. Serve these with honey-mayonnaise, or with Cream Salad Dressing made by cooking together 1/3 cup of cream, 2 slightly beaten eggs, 1 1/4 tablespoons of honey and 2 tablespoons lemon juice in a double boiler until thick as custard. Add a bit of salt; then strain.

A Hearty Dish for Frosty Days

And here is a hearty man's-man dish for cold days, especially when the eaters have been doing out-door heavy work.

Apples with oatmeal. Make large cavities in the apples, removing every vestige of core. Peel them and cook in a syrup made of 1 cup of honey and 1 cup of water, boiled together for about five minutes. When apples are done, fill the cavities with well cooked oatmeal. Serve portions with

cream. Sugar may be added if desired.

Here is still another very nourishing apple-honey combination.

Apple-Honey-Rice in Cups

Boil amount of rice desired until tender. Place rice in custard cups until each is half full and let stand until cold. Then put into a pan of hot water in order that rice molds will slip out easily.

In the top of each spoon out a bit and into the hole insert a quarter of apple which has been cooked in mild-flavored honey and water, half and half. Serve with cream.

For a "change" by way of griddle cakes, Honey Lady can suggest with good grace the following recipe:

Corn Meal Griddle Cakes

- 1 1/3 cups white corn meal
- 1 1/2 cups boiling water
- 1 tablespoon shortening
- 3/4 cup milk
- 2 tablespoons honey
- 2/3 cup flour
- 1 teaspoon salt
- 4 teaspoonsfuls baking powder

Directions. Pour boiling water over the corn meal and shortening, which has been very well blent, stir and set aside to cool. Then add the milk and honey also thoroughly mixed; then the flour sifted with salt and baking powder. In this as in all batters thorough mixing tends toward greater success. Bake on slightly greased griddle. Turn once only. This should give you golden brown cakes "fit for a king." If you like add more honey and butter to the cakes just before eating.

Here is a novel way to use honey, but one that yields a delicious bit of pastry.

Honey Corn Flake Shell

- 1 1/4 cups fine corn flake crumbs
- 1/4 cup butter, melted
- 1 tablespoonful honey

Melt butter in pie pan. Add honey and corn flake crumbs and mix thoroughly. Mold to form the shell.

This will add greatly to the goodness of any open-face pie.

Honey Lady gladly credits the Honey Producers' League with the

recipe hereby passed along, as being "tried in the balance" it has been by no means "found wanting." Particularly is she glad to give it to Blue Kitchen Readers, as they very likely have a pile of walnuts at hand for the nut feature.

Here's the how of it.

Add to 2/3 cupful of honey 1/4 teaspoonful of baking soda, dissolved in one teaspoonful of hot water. Stir until the foam subsides somewhat, then add 2/3 cupful of granulated sugar. Sift 2 1/2 cups of flour and 2 teaspoonful cinnamon and 1 teaspoonful each of ground cloves and allspice. Mix the honey and sugar, add 1 cupful chopped walnuts, 2 ounces shaved and chopped citron. Put mixture in covered bowl and stand in refrigerator, or other cold place, for 24 hours to prevent sticking to molding board. Roll thin, cut with a biscuit cutter, and bake on a greased and floured baking sheet.

A "bee line" to contentment in life is to make a constant study of the other fellow's point of view. This saves one's own feelings and the other chap's as well.

A "bee line" to freedom from skin infections is to keep a bar of any commercial "health soap" handy to the kitchen sink and in the bathroom, and to wash the hands and face whenever they become the least soiled. Carbolic acid is usually one of the ingredients of the health soap formulae and it kills the germs effectually. Just a "stitch in time" idea, of course, but worthwhile!

One of Blue Kitchen's man readers want to know why it is necessary to add brown sugar to honey-way baked beans. The answer to this is that for some reason not easy to define brown sugar adds a specially delicious flavor all its own, even when the sweetening may all be accomplished by honey.

Manpani Bees

A stingless bee, hope of the fearful, was discovered recently in southern Rhodesia, and the Zoological Society of Great Britain has arranged for a stock of them to be sent to England for experimental study.

The Manpani bees, as they are called, are small; only about the size of big flies, and it will have to be learned if they can survive in a temperate climate and produce sufficient honey to make their culture worthwhile. In Africa children seek out the Manpani nests and gather the honey, which always finds a ready sale. They are not hived there.

I. L. Neill,
Washington.

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

Stuyvesant's Burner

I would like to know more about the cheap burner described in September by Stuyvesant, California. Can it be used in the open, as a gasoline or kerosene stove or does it have to be put in a fire box like other oil burners? I want to use it under my uncapping tank.

KANSAS.

Answer (by J. B. Stuyvesant, California).—I do not believe the distillate burner will work in the open safely or well. It makes considerable smoke, requires a chimney and blows a powerful flame with extra fierce puffs at times, for quite a distance.

The one I now have is made with only a 1x5 inch nipple and I use it in a cast iron kitchen range with a fire box 19 inches long but it throws such a fierce flame against the opposite end of the box from the blow hole, that I had to line that end with brick for the flame to strike against.

The burner should be enclosed. I saw one working in a sheet iron air tight heater but it would quickly burn one out without good lining where the flame hit.

A gasoline stove is good for a capping melter but I use the same two-burner kerosene stove with 4-inch asbestos lighting rings, that I use to heat the water for my steam wax melter. It cost me about \$5.50 at Montgomery Ward.

Queens from McConnell's Hive

Referring to the articles on queen rearing by Herman McConnell, I suppose we can take good young brood under three days old from any good colony and place it in Mr. McConnell's side compartment and get queen cells. I suppose these cells will have to be removed on the 14th day and placed where new queens are wanted.

KANSAS.

Answer (by Herman McConnell, Ill.).—During our early experience with this hive, we generally transferred young brood to the side compartment and the bees would usually construct two or three cells on these combs of young brood in addition to the cells we gave them. Now, we transfer only sealed brood or brood too old for queen cells since we find we get better acceptance and better fed cells on our cell bars.

We believe that if the side compartment of the queen rearing hive is supplied with two or three combs of well matured brood and the colony strong enough to force bees to all parts of the hive good results will be obtained in the cells. The frame containing the young larvae should be similar to that described in Dr. Miller's book "Fifty Years Among the Bees." Bees prefer to build cells along the edge of combs or near a hole in the comb if there are any present. By making the edge of the comb longer due to irregularities, we believe that one would get a better number of cells with this method. One must be ready, however, to take care of them on the 10th or 11th day instead of the 14th.

Since we use the grafting method, our hives were constructed with that objective. We have never tried the plan he has sug-

gested. Will be pleased to hear from any who do give it a worthy trial.

Honey and Disease Germs

I wish to inquire about the inhibiting effect of honey on disease germs. A few years ago Dr. Phillips stated that honey being hygroscopic had a deleterious effect on disease germs by drawing water from their cell substance. This seemed logical and I have mentioned it on several occasions. Now along come "Observer" with another germ inhibition theory, more formidable and imposing than the first one and delving into the heart of the intricate sciences of chemistry, physics and biology.

This theory points out that the molecular weight of sucrose, cane sugar, is 342.8 g. while the molecular weights of the two main sugars in honey, dextrose and levulose, are 198.11 g. and 180.10 g. respectively, giving honey an osmotic value of about twice that of granulated sugar.

"Observer" gives us the simple explanation that this means the many disease germs which have their growth retarded or stopped by a solution of sugar, will be inhibited twice as much by honey because the honey will osmose or find its way through the cell walls of the disease organisms twice as quickly. In order to osmose a dilute solution would be required and since dilute solutions of simple sugars and amino acids are such good food for most cells, it seems paradoxical that they should be harmful to germ cells. Sort of a Jack Spratt and wife combination.

These two theories seem to be a give and take proposition. The first takes from the microbes and the second gives to them. Both actions are destructive to germs.

How shall I coordinate them to tell a straight story?

Answer (by H. S. Paine, Bureau of Chemistry and Soils).—It is well known that sugar solutions, particularly at high concentration, tend to destroy bacterial cells due to their action in removing water from within. This action is known technically as plasmolysis, and results in a shriveling up and resulting disintegration of the cells. No accurate comparative measurements of the osmotic pressures of the various sugars at concentrations near that of honey have been made, so far as I know. Theoretically, however, the sugars dextrose and levulose should have osmotic pressures approximately twice as great as a sucrose solution of equal concentration. This higher osmotic pressure would tend to plasmolyze bacterial cells more rapidly than in the case of sucrose.

It should be pointed out that spore-forming bacteria, like *Bacillus larvae*, are not destroyed by sugar solutions, since spores are highly resistive to plasmolysis. However, the diseases that afflict human beings are produced by vegetative or non-spore forming bacteria, so honey or similar saccharine liquids would tend to destroy or inhibit their growth quite readily.

This action of sugar solutions in destroying bacteria will take place even though a dilute solution of certain sugars (such as dextrose) and certain nitrogenous compounds present in honey are nutritious to the bacteria. A homely comparison might be made, although the analogy is imperfect, between this action and the fate of a human being on the desert who was supplied with a bountiful supply of food but denied water.

While it can be stated that honey is a very poor medium for transmitting disease germs (in contrast to liquids like milk), the inference should not be drawn that honey will destroy disease germs in the body when consumed as a food.

Using Cyanide

I would like to know how to kill a bad colony of bees to be replaced at once with a package. About cyanide or Cyanogas, is this a liquid, powder, or tablet? How is it used? If bees are killed with it, how long would it be before they could be replaced with other bees?

I have one colony that has my goat good and proper. They dig a hole through a net like a mole in the ground. The screen wire keeps them out but they cover it up until you can't see it. Smoke is useless. I had to use mosquito spray to get them off yesterday and I got stung from the ground up. If I fool with them, I fear I'll get in the habit of just plain downright cussing.

What would you do with them?

GEORGIA.

Answer.—I think the use of cyanide is the proper course. Cyanogas is a powder coming in tin containers, available from druggists. Ask for cabinet cyanide. Put a teaspoonful of it on the end of a hive tool and lay it in the entrance of the hive on the floor of the bottom board. Do not close the hive. It will kill the bees at once and all bees that fly in. It will dispose of any colony, gentle, cross, sick or well—without harm to you.

Do not carry the hive into the house but put it in some outbuilding if you need to do so before disposing of the combs or before cleaning them for use again so the fumes of the gas will not escape in a room in which you might happen to work.

The honey will not absorb gas in injurious quantities. It is safe to use. Combs, after airing, may be used again if they are from a healthy colony. We have had colonies like the one you report. The cyanide method will correct it. I would not try cussing.

Nosema Disease

Is there a strain of bees resistant to Nosema Disease?

NEBRASKA.

Answer (by the U. S. Bee Culture Office, Washington, D. C.).—All the races of bees common to this country and Europe are susceptible to Nosema disease. So far as is known at present, Italian bees are no more susceptible than other races. In a number of instances, Caucasian bees imported from Europe were found heavily infected when examined. A number of cases of heavy infection of Caucasian colonies in this country have also come to our attention.

Nosema apis does not grow in dead bees, but spores of the parasite which are always abundant in bees at the time of death, remain infectious for other bees for considerable time.

Since the gross symptoms of the various disturbances of adult bees are much alike, it would seem advisable to have a thorough laboratory examination of affected bees before definitely deciding that the trouble is caused by Nosema disease. If you send samples to this laboratory, we will make examination for you.

Jas. I. Hambleton,
Senior Apiculturist.

Conclusion of Detroit Convention Report

THIS is a continuation and conclusion of the report of the International Meeting at Detroit, October 7-10. It was begun in November and promised for January, but omitted because of the great amount of necessary material to appear in the latter issue.

In the report in November we had finished the notes of the talk by Miss Cranston of American Honey Institute following the printed program of the convention.

The report continues as follows with the talk by W. G. Le Maistre on "The Canadian Honey Federation."

The Canadian Honey Federation is patterned after American Honey Institute. Sixty per cent of the buying power in Canada is in Ontario so there is a concentrated competition in honey markets. Honey needs advertising badly so the Canadian Honey Federation has been formulated to take care of this necessity. It is thought that honey, a superior food, needs national promotion. Therefore the object of the Federation is to advertise, lessen freight rates, study demands, standards, containers, etc.

At present it is financed by voluntary subscription. Under the Natural Products Marketing Act in Canada, the Federation may be allowed to assess a legal toll for the financial regulation of the association. Some beekeepers fear it will result in control but this phase is being nationally considered.

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"My Honey Program"—Miss Newberry, Canadian Honey Federation.

The Canadian Honey Federation is located at Guelph where is also the McDonald Institute of Home Economics. At the Institute there will probably be given a lecture on honey in the Junior Course and some experimental cooking using honey. Honey is also included in the Senior demonstration list. The Federation has also interested the Woman's Institutes in honey and the Junior Institute short courses. It has established a honey week for Canada paralleling that in the States, has pushed the appearance of honey at Fair exhibits and is interested in the use of honey in children's and infants' diets.

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Wednesday was American Honey Producers' League Day. The following minutes of the League are given by Miss Arlene Weidenkopf, secretary.

Minutes of Annual Meeting

American Honey Producers' League

The secretary-treasurer, V. G. Milum, in his financial reports showed receipts of \$246.45; expenditures \$150.33; with a balance of \$96.12, of which \$34.81 is in the warning poster fund.

A motion was made and adopted by the convention confirming the action of the League in contributing \$25.00 from its treasury to the American Honey Institute.

The following resolutions were adopted:

1. Appreciation to Michigan State Beekeepers' Association and to Mr. Russell Kelty and his associates for the excellent service and success of the convention.

2. Appreciation to the management of the Hotel Statler for its cooperation.

3. A request to the Department of Agriculture, the Bureau of the Budget, the Bureau of Entomology and Congress, to approve the establishment of a North-Central States Bee Culture Laboratory with appropriations for its maintenance.

4. Tribute to D. D. Stover, killed in accident in Mississippi, for his services as a member and officer of the League and his kindness and sympathy to the entire beekeeping industry. Copy to be sent to the family of Mr. Stover and recorded in the minutes.

5. Appreciation to J. W. Newton for his generous use of his time and energy in the interest of American Honey Producers' League.

6. Similar appreciation to Dr. V. G. Milum, University of Illinois.

7. Endorsement of the American Honey Institute in the work of Mrs. Jensen and Miss Cranston, commendation to Board of Directors and Executive Committee of the Institute for their interest in its welfare.

Activities of Legislative Committee

Presented by E. R. Root.

Two major activities, first, securing a fund from the Congress for investigation through the Bee Culture Laboratory of the superseding of queen bees and, second, the establishment of a field station in the North Central States. Through the Committee activities, funds were included in the appropriation for the Department of Agriculture for the beginning of research work on superseding and the work is now under way. Funds for the field station have not yet been consummated but the funds have been included in the budget and probably the Bureau of the Budget will not object to them.

The following officers were elected for 1936: President, Thomas Burleson, Waxahachie, Texas; vice president, M. S. Stone, Ogden, Utah; secretary-treasurer, Arlene Weidenkopf, Madison, Wisconsin; directors, O. H. Schmidt, Bay City, Michigan; M. C. Jensen, Macon, Mississippi; J. W. Newton, Baton Rouge, Louisiana; H. M. Krebs, Sacramento, California; Morley Pettit, Georgetown, Ontario, Canada.

The committee on Life Membership reported J. M. Cutts, Montgomery, Alabama, for this honor, and on regular motion he was declared elected.

President Newton presented the matter of a tariff on beeswax, and seeking national assistance in the eradication of foulbrood. A preliminary committee to investigate the desirability of a tariff on beeswax were appointed as follows: H. F. Wilson, chairman, E. R. Root, Roy Grout and J. W. Newton. This committee recommended the appointment of a standing committee to report in 1936. This meeting was followed by the regular program of speakers, reports of which follow.

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"Shifting Trends in Commercial Honey Areas," by Harold J. Clay, Bureau of Agricultural Economics.

Changes in production areas over a large section of the country are caused by shifting agricultural practices that necessitate adjustments on the part of many beekeepers to meet the condition. Comb honey is giving way to extracted honey production, cut-comb and chunk comb. There is now a shortage of comb honey. The 1906 pure food law protects extracted honey from adulteration and so has brought a market for it. . . . Another reason for the decline of comb honey is due to granulation and also to lack of skill in production.

The peak of honey production in 1929 was 211,725,150 pounds. The low year so far, 1933, with 148,006, 950 pounds. It will probably be still less this year.

The last years have shown a decided trend toward commercial beekeeping and away from the farmer beekeeper and the sideline beekeeper. Honey selling is passing to large buyers. Will it continue? Probably no, because of the great publicity and increased demand. The sum total of the industry is bound to turn upward.

— o —

"Educational Aids to Honey Production, by Prof. F. B. Paddock, Iowa.

As Extension Apiarist of Iowa, Prof. Paddock, has stressed the educational side of his work for many years and has depended on demonstration apiaries as a means of increasing the influence of the inspection service. He contends that the lack of demand on the part of the

beekeeper is the cause of failure to provide help.

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"Discussion of the Work of the Bee Culture Laboratory," by James I. Hambleton, Washington, D. C.

An outline of the work which the Bee Culture office has on the way. Cost studies, etc. Beekeepers as a whole produce at a loss. The average cost of production is 6 cents, some as low as 2 cents in California, some as high as 30 cents a pound. The average travel cost per pound is one-fourth of a mile.

Cost studies in the Wid-West show a cost of 6½ cents for honey in carlots in the years 1930 and 1931. The results of these studies has recently been published as technical bulletin 481 by the United States Department of Agriculture. Copies may be obtained from the Superintendent of Documents, Washington, D. C., for 5 cents each.

His report of the experiments in practical phases of beekeeping conducted by the Field Station in Wyoming was particularly interesting. The lack of pollen in combs in winter is the cause of slow colony development in spring; pollen may be the key to the wintering problem. Some bees apparently gather more pollen than others. It may be necessary to select bees for this. Two queen colonies produced one and a half times more honey than single queen colonies. A method is being worked out for the maintenance of two queens in one colony.

The Department is adding genetical and other research workers to its staff to study the problem of bee breeding.

— o —

"Beekeeping Trends in Canada," by C. B. Gooderham.

Canada has a system of standardized honeys and honey containers which is working successfully. They have instigated institute activities with Miss Newberry, of Guelph, in charge of honey cookery. Canadian beekeeping is definitely on an upward trend.

— o —

"Michigan's Beekeepers Registration Law," by D. P. Barrett.

This state passed a law which became effective in June, 1935, taxing for apiary inspection. An apiary of 1-9 colonies pays 75c and an apiary of 10 or more colonies pays \$1.50 each year. Out of 19,500 known beekeepers 4,000 registered who had from 1-9 colonies and 2,000 who had 10 or more. By this method about \$1,500 was collected for inspection work.

— o —

"Progress in Eradication Methods," by Chas. A. Reese.

Reported marked reduction in amount of disease located in certain localities. These were from 50 per

cent infection to 2 per cent infection and from 66-2/3 per cent infection to 1 per cent. This was accomplished by rigid burning program and he strongly advocates that it be continued.

— o —

"Predicting Honey Prices for the Future," by Prof. H. F. Wilson.

The price of sugar has little or no relation to price of honey. The production of honey has not increased with the increase of farm production. As a luxury sweet it is a wonder that we have been able to sell our honey at all. Only through the efforts of the American Honey Institute and related movements has this been possible during the depression years.

The price of honey today is the same as its average price over the period of years from 1879 to 1916. Five-cent honey can be produced profitably with a sufficient number of bees. He predicted that the chain stores will sell honey from 10 to 12 cents per pound in five-pound pails and the small producer will have to compete. A gloomy outlook for the small producer.

— o —

"The Preparation of Liquid Honey for the Market," by Dr. E. J. Dyce.

A very interesting paper on the preparation of honey for the Canadian market. Eighty per cent of the honey is sold in a granulated form making a finely granulated product in demand. Trouble is experience with fermentation and coarse granulation. Dr. Dyce described in detail the method by which these two factors were overcome.

Told of the rumor that comb honey was good for hay fever. This got into the Canadian newspapers and the result was that all the comb honey in the province of Ontario was cleaned off the market. Dr. Detweiler, an authority on hay fever, was consulted with the results that experimentation is soon to take place on this interesting subject.

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"On to Texas in 1936," by T. W. Burleson.

The International meeting is to be in Texas next year at San Antonio. Tom urged everyone to spread the word and be there. He also mentioned that the 100th Centennial of the State of Texas is to be next year and that in attending to be sure to stop at the Gate Way to Texas and attend this celebration. He described the state as the nation's garden spot and the eighth wonder of the world.

— o —

"What Is Ahead of Us in the Honey Business," by C. F. Muth.

Urged cooperation between the beekeeper and the honey packer—let the beekeeper produce honey but let the packer market it.

"Problems Involved in Large Scale Honey Marketing," by W. F. Straub.

A very interesting talk on cost factors in large scale merchandising of honey. Mr. Straub is carrying on an intensive advertising campaign in newspapers and magazines and is carrying on a work which is not only benefiting himself but other packers and beekeepers, in creating a greater demand for honey. He gave a detailed accounting of his production and sales costs reporting a profit of about ¼ cent per pound on honey packed in one-pound jars.

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Business Meeting of American Honey Institute.

Finance Committee—H. F. Wilson, Chairman. It may in time be possible to find enough beekeepers for the Institute without the use of emergency requests, but it probably will be many years. The Five Year Pledge Plan seems to be worth developing. In the Annual Report we are trying to secure advertising to pay for the printing.

The Advisory Committee—Lewis Parks, Chairman. Twelve women and two men constitute this committee as follows: Miss Mary I. Barber, Kellogg's, Battle Creek, Michigan; Miss Jean Guthrie, Better Homes & Gardens; Miss Genevieve Callahan, Sunset Magazine; Mrs. Marjorie Child Husted, General Mills; Mrs. Caroline B. King, Country Gentleman; Mrs. Luella Mortensen, Wisconsin; Miss Dr. P. Mabel Nelson, Ames, Iowa; Lewis Parks, Chairman, G. B. Lewis Company; Miss Joan Rock, Hutchinson Advertising Agency; Miss Bess Rowe, Farmer's Wife; Miss Dorothy Shank, American Stove Company; Miss Annette Snapper, Premier-Pabst Company; Mr. L. B. Williams, California Dried Fruit Institute; Mrs. Malitta Fischer Jensen, American Honey Institute; Mr. W. F. Straub, Straub Laboratories, Chicago, Illinois.

The function of this committee is to advise with Mrs. Jensen on problems of the Institute.

Mrs. Jensen's schedule for a western trip was approved and financed at this meeting.

On report from Dr. Dyce and Mr. Le Maistre, Mr. Le Maistre was elected a member of Board of Directors of American Honey Institute and the Canadian Federation furnishes financial support to our Institute in return for the cooperative benefits which will be derived from this association.

The following officers were elected: President, R. H. Kelty; secretary, M. F. Jensen; treasurer, M. Cranston.

The Executive Committee: R. H. Kelty, H. F. Wilson, G. C. Lewis.

The Finance Committee: T. Atchison, A. G. Woodman, E. T. Cary, H. M. Krebs, H. F. Wilson.

A New Type of Capping Melter

A new type of capping melter, that differs greatly from the conventional one, is being advertised in this issue. The inventor claims that the cappings drop from the knife into a small tank; here the wax and honey separate by gravity. The same gravity force pushes the wax up through a set of copper veins through which a constant flow of very hot water circulates, melting the wax. As there is a constant movement of wax up through the veins it carries the slumgum up with it.

The slumgum has a tendency to pile up on the veins where it is easily removed; the wax floats off through an outlet provided for that purpose. The honey escapes through an outlet in the bottom of the tank, that is designed to maintain just the proper level to force the wax up through the veins.

The water in the veins is circulated and heated by an especially designed hot water steam jet. The inventor also claims that he has melted over 1,150 pounds of wax from cappings this season using only the exhaust (waste) steam from the capping knives.

It cannot injure the honey, and as the wax is separated from the honey before it is melted, and is not united after melting, there are no specks left in the honey. The cost of operating is practically nothing. The veins are made of tinned copper and the tank of copper bearing galvanized iron. It should last a lifetime. The inventor is patenting the process as well as the melter.

Present Status of the Marketing Agreement

(Continued from page 25)

cent of what they are today under the Marketing Agreement. The Agricultural Adjustment Act and the regulations of the Secretary prescribe procedure to require shippers to comply with this Agreement. Here are appropriate provision of the Act with reference to this matter of enforcement:

"(6) The several District Courts of the United States are hereby vested with jurisdiction specifically to enforce, and to prevent and restrain any person from violating, the provisions * * * * of any order, regulation, agreement, or license heretofore or hereafter made or issued pursuant to this Title (of the Agricultural Adjustment Act) in any proceeding now pending or hereafter brought in said Courts.

"(7) Upon the request of the Secretary of Agriculture, it shall be the duty of the several District At-

torneys of the United States, in their respective Districts, under the directions of the Attorney General, to institute proceedings to enforce the remedies provided for in this Title (the Agricultural Adjustment Act)."

In this brief discourse an endeavor has been made to make it clear to shippers what their legal obligations under this Agreement are, to say nothing of the moral obligation for each shipper to cooperate with other shippers to improve the economic conditions of the bee and queen shipping industry. In the face of these clear legal obligations and duties, it is doubtful that if any shipper who is not misled as to what his obligations are, will refuse to do what he agreed to do with reference to maintaining prices, making reports to the Managing Director and paying his share of the expenses of maintaining the program. However, if some shipper stubbornly refuses to comply with his contract or agreement, the way is clear for the Secretary of Agriculture to cause appropriate action to be taken to require such recalcitrant shipper to comply with his contract.

Of course, this marketing program was initiated by the shippers and it is still their program. The future course of the Secretary of Agriculture will undoubtedly be determined largely by the desires of the industry itself. At the present time it appears that the industry has turned the "go" sign into view.

Disease Prevention

(Continued from page 21)

sure the treatment has been successful. The time that infection is carried in the hive before developing has been fooling us. We have substantial proof of recurrence of disease in colonies three years after being treated.

Our Iowa law does not require that diseased colonies be destroyed so if the owner insists on treating, we recommend that all healthy colonies be moved a distance of two or three hundred yards and that the diseased colonies be given a double shake on their old stands. This usually can be done with less work and is much safer than moving diseased colonies. If bees will fly seven miles for honey, how far will they go to get back to their old location? It is best not to play with disease. Eradicate it and save money.

Meetings and Events

(Continued from page 16)

ducting Summer Field Meetings," L. R. Stewart, Newport.

Wednesday Morning, 9:00-12:00, Agricultural Building, room 103.

"Spring Management and Swarm

Control," F. B. Paddock, Iowa State College.

"Handling of Bees During the Honeyflow," W. A. Horst, Crown Point.

"The Why and How of Requeening," B. J. Wilkins, Assistant State Bee Inspector.

Wednesday Afternoon, 2:30-4:30, Agricultural Building, room 103.

"The Relationship of Honey Production to Fundamental Agricultural Programs," F. B. Paddock, Iowa State College.

"Why, How and What to Feed," B. Elwood Montgomery, Purdue.

"Handling the Bees After the Honeyflow," F. B. Paddock, Iowa State College.

Thursday Morning, 9:00-12:00, Agricultural Building, room 103.

"What I Have Learned About Bees," J. Harley Walker, President Indiana Beekeepers' Association, Galveston.

"The Relation of Beekeeping Methods to the Prevalence of Foulbrood," J. E. Starkey, State Bee Inspector.

"The Practical Procedure in Foulbrood Control," F. B. Paddock, Iowa State College.

J. J. Davis.

Kansas Beekeepers' Program, Farm and Home Week, February 6, Manhattan, Kans.

The beekeepers' program which is to be held February 6, 1936, during Farm and Home Week at the Kansas State College, Manhattan, Kansas, is one which is being organized around the subject of surplus honey production of the progressive beekeeper. It is planned to have eight talks on this one-day program.

The speakers will be Dr. C. L. Farrar of the Intermountain Field Station of the Bee Culture Laboratory, Laramie, Wyoming, who will tell the beekeepers how to produce more surplus honey with fewer colonies of bees. Mr. O. S. Bare, Extension Entomologist of the University of Nebraska, will speak upon the operation of demonstration apiaries in Nebraska. Mr. Arthur Allen, owner of the largest number of colonies of honeybees in Kansas, will talk about Kansas Beekeepers' Associations. R. L. Parker, State Apiarist, will give the summary of the apiary inspection service in Kansas during 1935.

Meeting of the Beekeepers of Montgomery County (Ohio), New Lebanon High School on Laton Pike, 7:30 P. M., January 8th, 1936.

In cooperation with the annual Farmers' Institute. Sponsored by the Beekeepers of Montgomery County.

Program

Prayer—Dr. Albricht.

Music—Band New Lebanon High School.

Address of Welcome—Professor Gun-
tile, Superintendent.

"Bees As An Interesting Hobby"—
Professor Charles Case.

"Clover for Bees"—Mr. O. K. Cun-
ningham, County Agent.

"State and County Work for the Bee-
keepers"—Mr. Chas. A. Reese,
State Apiculturist.

Film "The Realm of the Honeybee"
and "Pollination"—Dr. W. E. Dun-
ham, State College.

"Honey As a Food"—Penn G. Snyder,
Commercial Honey Producer.

A ten-minute question box will fol-
low each speaker. Note down and
have your questions ready.

Wisconsin Beekeepers' Conference*
King Hall, Room 206, University,
Madison, Wednesday, Feb. 5, 1936.

9:00 a.m.—Registration.

9:30 a.m.—"A Review of Wisconsin
Beekeeping," H. F. Wilson.

10:00 a.m.—"Average Honey Prices
in Wisconsin and What May Be Ex-
pected in the Future," W. P. Mor-
tensen, Agricultural Economics.

2:30 p.m.—"What Plan of Manipula-
tion Will Produce the Greatest
Surplus Crop," H. F. Wilson.

3:00 p.m.—"What Are the Breeding
Factors to Be Followed in Creating
Disease Resistant Strains of Bees,"
L. J. Cole, Dept. of Genetics.

3:45 p.m.—"Artificial Mating of
Queen Bees and a Demonstration
of How It Is Done," Harry Laid-
law.

Thursday, Feb. 6

9:00 a.m.—"Comb Honey Production,
Its Decline and Causes," Chas.
Giauque, Stanley, Wisconsin.

9:45 a.m.—"Developing a Profitable
Commercial Apiary," Jos. Garre,
Aniwa, Wisconsin.

10:15 a.m.—"Package Bees and
Queen Supersedure," Kenneth
Hawkins, Watertown, Wisconsin.

2:30 p.m.—"The Uses of Honey and
Beeswax in Commerce, With Ex-
amples of the Known Products,"
Malitta F. Jensen, American Honey
Institute.

6:30 p.m.—Honey Banquet, Simons
Hotel.

Friday, Feb. 7

Wisconsin State Beekeepers' Associa-
tion Program, Mr. A. E. Wolkow,
Presiding.

9:00 a.m.—"Bee Disease Control
Necessary for Profit in Beekeep-
ing," E. L. Chambers.

9:45 a.m.—"The Problem of Bee Dis-
ease Control in Wisconsin," C. D.
Adams.

10:30 a.m.—"Dysentery of Honey-
bees and Methods of Prevention,"
E. C. Alfonsus.

11:00 a.m.—General Discussion.

*No meetings are scheduled be-
tween 11 and 2:30 on Wednesday
and Thursday, so that the beekeepers
can attend important general meet-
ings scheduled for that time.

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AMERICAN BEE JOURNAL, HAMILTON, ILL.

North Dakota Meeting and Short Course, Jan. 15.

The annual meeting of the North Dakota Beekeepers' Association and winter short course in beekeeping will be held during Farmers' and Homemakers' Week at the North Dakota Agricultural College, Fargo, January 15, 1936. The program will include topics of importance to beekeepers—centering largely around marketing of honey, beekeeping management, and bacteriology of brood diseases. A business session of the Association, followed by a beekeepers' banquet in the evening, will conclude the convention.

J. A. Munro,
Secretary.

New Jersey at Trenton, Jan. 30th.

The annual convention of the New Jersey Beekeepers' Association will be held in Trenton, N. J., on January 30th, 1936. There will be morning, afternoon and evening sessions.

Mr. Geo. H. Rea of Cornell University will be the out-of-state speaker. He is well qualified to give worthwhile discussions on practical beekeeping having done extension work in bee culture in several states.

There will also be discussions by local talent, one of whom will be a lady beekeeper.

The evening meal will be eaten together at the Y.W.C.A. Following the meal there will be a short social period followed by a demonstration of honey candy making by a Home Demonstration Agent.

Elmer G. Carr,
Secretary-Treasurer.

Kentucky Association at Lexington, January 28.

The Kentucky Beekeepers' Association will hold its annual meeting in Lexington on Tuesday, January 28, 1936. The one-day program is filled with timely topics covering practical phases of the bee and honey industry. Mr. M. J. Deyell, Editor of *Gleanings in Bee Culture*, will have a prominent part in the program. Others assisting include L. E. Gooch, President, Nicholasville, Kentucky;

H. O. Hall, Lynch, Kentucky, and W. A. Price, Lexington.

W. A. Price,
State Entomologist.

Beekeepers Fall Meeting at Ashland

Members from all sections of Middlesex County attended the fall meeting of the County Beekeepers' Association Friday night in Town Hall with President James Fulbrook Taylor of this town in the chair.

Inspector Vanderpoole from the State House, Boston, spoke on the proposed tax on all beekeepers to help pay for bee inspection in the State, every beekeeper to pay fifty cents annually to help stamp out bee diseases.

W. L. Hulbert of Crestmere Farm, Holliston, spoke on bees in orchards and their advantage for pollination of better fruit. I. Lupien of Cochrane spoke on sprays for orchards, some of which are harmful and others not harmful, to bees.

Mr. Copeland, Lexington beekeeper, demonstrated a winter cover and packing, also a new feeder which he is about to put on the market.

Benjamin Hildreth of East Holliston, who has about 100 hives and last month took the association secretary, Miss Elinor Norton as his bride, told of his honeymoon trip to the South Sea Islands.

Entertainment consisted of tap dancing by Russell Graham and ukulele and harmonica selections by Robert Pierce.

Refreshments were served by Mr. and Mrs. James E. Taylor, and a social hour was enjoyed, following a question period.

James F. Taylor.

Illinois State Summer Field Meeting Already Being Planned

The State Beekeepers' Association in session in Springfield in November decided to have a big annual field meet for the state of Illinois beginning 1936.

The selection of thought for this meeting has been determined. The St. Clair County Beekeepers' Association will be hosts and the meeting will be held on June 21 at Philip Krebs' api-

ary in Marissa, Illinois. Mr. Krebs is one of the largest beekeepers in that section of Illinois, has an up-to-date honey house with many unusual handy contrivances and the whole setup will be especially desirable.

O. G. Rawson, Secretary of the St. Clair Beekeepers' Association is already making a call upon the different secretaries of county associations in the state asking their cooperation to the end that the meeting may be made a "whirl wind" one.

As we understand it, several thousand advance programs are going to be printed for the meeting containing complete program of the meeting and many other facts relating to beekeeping in Illinois which will be especially desirable. As we understand it, the cost of the folder is to be borne by some advertising therein.

So, Mr. Illinois Beekeeper, prepare your schedule next year to take in the meeting at Philip Krebs' place in Marissa, Illinois, on June 21.

Right about then will be the height of the white clover crop and you can always break away even though the bees are swarming. It will make you all the more "peppy" for the next day's work.

New Tuscawawas (Ohio) Association

At a meeting October 1 at New Philadelphia, Ohio, the Tuscawawas County Beekeepers' Association was organized with a membership list of fifteen beekeepers. H. F. Mills, Denison, Ohio, is Secretary of the association.

Washington Association Secretary Many Tongued Pastor

One of the interesting beekeepers attending the annual meeting of the Washington State Association in December was the Rev. M. F. Mommsen of Tacoma, reelected secretary of the Association. Rev. Mommsen is a German by birth, a Lutheran pastor and has been interested in bees for many years. He lived among Norwegians for some time and has learned their language. He often writes his sermon in English, delivering it at the morning service, repeating it in Norwegian in the afternoon and in German in the evening.

I. L. Neill,
Washington.

Yakima Association Dissatisfied With Inspection

In the December meeting members of the Yakima (Washington) Beekeepers' Association expressed dissatisfaction with the inspection service believing that without funds to carry on the work no approach to efficient service can be maintained. At one time \$4,000 was appropriated with seventeen inspectors employed. Last year only \$1,400 was allowed and four inspectors employed on a

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part-time basis. Also, in Washington beekeepers are allowed ten days to clean up bees after the discovery of disease and the Association considers this too long a time. I. L. Neill, Washington.

Washington Price Advance

Price of honey to producers advanced 20 cents a case recently, making the price \$5.10 a case or 8½ cents a pound. I. L. Neill, Washington.

Affairs at Washington Meeting

At the State Association meeting in Yakima, December 3 and 4, it was brought out that the first legislation dealing with the beekeeping industry in the State was enacted thirty-eight years ago, forbidding the setting out of any substance containing poison that would attract bees. This constituted the first difficulty encountered by the beekeeper and it is still a problem in connection with poison sprays used in various places.

Better and stricter inspection service is the chief need of the industry according to the Association. Walter J. Robinson, State Director of Agriculture, informed the meeting that funds for inspection would have to come from within the industry.

The sentiment of the meeting favored the renewal of efforts for the bee registration bill in the next legislature, which provides registration fees of \$1.00 for ten colonies and 5 cents a colony for additional ones. It is estimated there are 60,000 colonies in the State and fees thus provided would give enough money for inspection work.

Champions of the bill said it would eliminate backyard beekeepers, whose bees are a menace. Those opposing the bill contend the expense of collecting from non-commercial beekeepers would use up the money.

I. L. Swain, of Prosser, was elected president; M. C. Danforth, of Gig Harbor, vice president; and Rev. M. F. Mommsen, of Tacoma, secretary. I. C. Ternan extended an invitation to the Association to meet in Puyallup in 1936. I. L. Neill, Washington.

Short Course University of Manitoba Winter 1936, Jan. 20-31, Inclusive

The program of the short course for Winter of 1936 at the University of Manitoba is at hand. The dates are January 20th to 31st inclusive. The lecturers: A. V. Mitchener, Professor of Entomology; L. T. Floyd, Provincial Apiarist.

About fifty lectures and demonstrations will be given, covering practical beekeeping. In addition to the principal lecturers, there will be eight other speakers from University Departments. During the last week of the course members of the Manitoba

Beekeepers' Association will meet for two days in annual convention. The afternoon and evening sessions of the Association will become a part of the short course and provide a chance for students to meet the leading beekeepers of the Province.

The course will cover: locations; starting with bees; races of bees; extracted honey production; comb honey production; management during the season; swarm control and increase; queen rearing; requeening; feeding of bees; package bees; grading of honey; uses of honey; beeswax; extracting honey; bee diseases; pollen and nectar producing plants; relation of bees to fruit growing.

Registration fee is \$5.00. Board and room in the Manitoba Union, University Residence, \$6.50 per week.

Cook-DuPage Meeting, Jan. 25

The Cook-DuPage (Illinois) Beekeepers' Association will hold the annual meeting and second annual banquet at The Bismarck Hotel, Wells and Randolph Street, Chicago, January 25th, beginning at 2:30 p.m. Good speaking, musical entertainment, charter adoption, election of officers, County and State Fair plans. Menu: Honey fruit cocktail, Bismarck Special Roast Veal or Pork, mashed potatoes, honey buttered peas, assorted rolls, combinations salad, pickles and relish, ice cream with honey-top cake and coffee.

Make reservations for the banquet through the Secretary.

Leroy Stockdale, Secretary,
Palos Park, Illinois.

Utah Schedule for January 20

The Utah State Beekeepers' Association will hold the annual 1936 convention during the week of January 20th, the tentative dates being January 21 and 22 in Salt Lake City in conjunction with the meeting of the Utah State Farm Bureau.

Glen Perrins,
Utah.

Joseph Bagley (Utah) Suffers By Fire

Fire destroyed forty-five colonies of bees belonging to Joseph Bagley of Springville, Utah, recently. Less than two months before, fire also destroyed one hundred colonies for Mr. Bagley.

The bees were packed in dry leaves for winter. Six youths are blamed by Sheriff E. G. Durnell who reports the boys visited the apiaries and had taken honey from the bees to eat, lighting a match which was accidentally dropped among the bees in the dry leaves. About two-thirds of the bees in the yard escaped. There was no insurance. Glen Perrins, Utah.

(Please turn to page 45)

TREAT

Yourself to a yard of personally reared, Gentle **GOLDEN ITALIANS** this year. Our Queens and Package Bees take on all comers regardless of breed. The crop will tell our Story!

Minimum Marketing Agreement Prices **SPOERRI APIARIES**
St. Bernard P. O., Louisiana



For Over 50 Years

BEEKEEPERS in many lands have been pleased with this most important tool in Beekeeping. Your Bingham Smoker is offered for sale by numerous dealers.

INSIST ON THE BEST

Manufacturers of a complete line of Honey Extractors, one for every requirement. Send for printed matter.

A. G. WOODMAN CO.
GRAND RAPIDS, MICH.

THE GOAT WORLD

official organ of
The American Milk Goat Record Ass'n.

Oldest and largest Milk Goat magazine published. Broadest circulation. Articles by best authorities. Subscription rate one year \$2.00; three years \$4.00; five years \$6.00.

Sample copy 20c.

Address:

THE GOAT WORLD
Vincennes, Indiana

TREAT YOURSELF TO THE BEST

KNIGHT'S PACKAGE BEES AND QUEENS

Booking orders at code prices, same as last year, with 15 per cent discount to dealers.

JASPER KNIGHT, Hayneville, Alabama.

Mack's

Queens (They Speak for Themselves)

We trade Queens for Beeswax. Write for particulars.

Herman McConnell

The Bee and Honey Man
Route 2 Robinson, Illinois

PACKAGE BEES AND QUEENS—Our bright Italians are good honey gatherers. Owing to our special breeding method they swarm less, they build up fast, we ship promptly and use light cages, no disease ever been in our country. 2-lb. pkg. bees, to June 1, \$2.45; after June 1, \$1.95. 3-lb. pkg. bees, to June 1, \$3.15; after June 1, \$2.55. Untested bright Italian queens, to June 1, 75c; after June 1, 50c. Safe arrival, satisfaction guaranteed. **TAYLOR APIARIES :: Luverne, Alabama.**

Are Your Friends Subscribers to America's Oldest Bee Journal?



Italian Queens - IMPERIAL - Package Bees

Lower Austrian Queens and Nuclei

With confidence in the future, we take to the open road prepared to mend the fences wherever need be. With more and better equipment and bees we can offer you better service than ever before in the history of our business. The same high quality leather-colored queens and full weight packages will go out on time as usual. In addition we offer for the first time Lower Austrian Queens bred from mothers imported direct from Austria in 1935. Untested queens from Austrian stock crossed on Caucasians \$1 each.

PRICES UNTIL JUNE 1

QUEENS:

Untested ----- \$.75 ea.
Purely Mated ----- 1.50 ea.

PACKAGE BEES, with 1 Queen:

2-lb. Package ----- \$2.45 ea.
3-lb. Package ----- 3.15 ea.
Each add. lb. bees ----- .70 ea.

PACKAGE BEES, without Queen:

2-lb. Package ----- \$1.70 ea.
3-lb. Package ----- 2.40 ea.
Each add. lb. bees ----- .70 ea.

NUCLEI:

2 lbs. Bees, 1 Comb,
1 Queen ----- \$2.85 ea.
3 lbs. Bees, 1 Comb,
1 Queen ----- 3.55 ea.
Each add. lb. bees ----- .70 ea.
Each add. Comb ----- .40 ea.

Free Circular. Names of satisfied customers in every state sent on request.

THE COFFEY APIARIES, Whitman Coffey, Prop. WHITSETT, TEXAS

Superior "Lifetime" Extractors

4-Frame and 8-Frame Sizes

*Tried and Tested for More
Than Eight Years*



Being used by some of America's largest beekeepers, whose statements will be printed in this magazine during the following months.

Note the following written by one of California's most reliable shippers of package bees:

"Your 8-frame SUPERIOR 'LIFETIME' extractor is certainly the best on the market. In fact, it is the only extractor worth having by large producers who want something that will last and not break down in the rush of the honey season.

(Signed) THOS. C. BURLESON.
Colusa, California."

SUPERIOR HONEY COMPANY

IDAHO FALLS, IDAHO

OGDEN, UTAH

LOS ANGELES, CALIF.

PACKAGE BEES for 1936

The impressive increase in honey consumption during the last few years and the present shortage of honey have further stimulated another great increase in our bee production for 1936.

The general opinion, is, that those who are prepared with heavy honey production will reap the benefits in 1936.

The current price of honey justifies increasing production or the splendid work of honey advertising agencies, both in the United States and Canada will be in a great measure nullified if the users of honey are forced to use substitutes.

Our volume of business in 1935 almost doubled that of 1934 and we attribute this to our good service and satisfied customers. We solicit early booking. No deposit required. Safe arrival and satisfaction guaranteed. No disease.

Only young bees and queens shipped.

SELECT LAYING QUEENS -----	\$.75 each
TWO-POUND PACKAGE BEES WITH QUEEN -----	2.45 each
THREE-POUND PACKAGE BEES WITH QUEEN -----	3.15 each

Come in your truck if you wish. We are located on a main paved highway.

GARON BEE COMPANY

::

DONALDSONVILLE, LA.

JOSEPH DUSEK
COMPANY
726 WEST RANDOLPH STREET, CHICAGO.

HONEY
ALL GRADES
COMB AND EXTRACTED
Any quantity.
(Reference, First National Bank)

THE BEEKEEPERS ITEM

The Southern beekeeper's own magazine, but read by honey-producers everywhere. Combined with the American Bee Journal makes a combination that covers the beekeeping field.
Send \$1.50 and get both magazines for a full year.

BEEKEEPERS ITEM, San Antonio, Tex.

COLUSA COUNTY, CALIFORNIA
In the Heart of the
Sacramento Valley

Ideal for early bee breeding. We offer
ITALIAN BEES and QUEENS.

2-lb. pkg., \$2.45. 3-lb. pkg., \$3.15.
Dealer's discount, 15%.

Member: Calif. Bee Breeders' Ass'n.
I. W. MYERS :: COLUSA, CALIF.

**Honey
Selling Helps**

Send for Complete Catalog

Honey Leaflet



Four pages. Cover in four colors. Explains fully but briefly the value of honey, its uses, and gives a few recipes. Name and address of beekeeper with honey prices if desired. Fits ordinary envelope. Sample free.

Prices postpaid with name and address, etc.:

100, \$1.85; 250, \$2.75
500, \$4.75; 1000, \$7.75
Each additional 1000, \$9.75.

Eight Page Honey Folder

"Sweetheart of the Flowers"
Short description of what honey is, how produced, harvested. How to keep it, and other data of general interest. A full page of honey recipes included.

Prices

100---\$1.00 250---\$2.50
500---4.50 1000---8.50

Extra for printing your name and address: 250 or less, 95c; 500, \$1.25; 1,000, \$1.90.

American Bee Journal :: Hamilton, Illinois

**Let this Beekeeper's Thanksgiving
Message be Your New Year's
Resolution**

American Honey Institute,
Madison, Wisconsin.

"Thursday is Thanksgiving Day and in going over my blessings I thought of the American Honey Institute. I have read your pleas over and over again in the Bee Journals, but like the 'Little Boy' who was always going to, I put off sending my dollar. Wouldn't it be great if all the beekeepers in the U. S. A. were to be thankful enough for what the American Honey Institute is doing to send their dollar along. But perhaps they are like the above mentioned little boy.

"I only produce one ton of honey a year at present but expecting to produce more in the near future and will send more dollars along then and perhaps earlier.

"Thank you for your efforts and wishing the American Honey Institute all the luck in the world, I am"

Very truly yours,

(Signed) JOHN S. FERGUSON,
150 West 78th Street,
New York City.

I want to be a member of American Honey Institute and here is my membership for 1936.

Name _____

Address _____

Amount of Membership \$ _____



cloth, stamped in gold—a handsome addition to any library. With simple hooked wires you are enabled to snap twelve copies of American Bee Journal in the binder one at a time as they come to you.

We guarantee to refund your money if you are not satisfied. The price, postpaid, is \$1.25.

AMERICAN BEE JOURNAL, Hamilton, Ill.

**Bind Your
Journals
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Year After
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From year to year you are receiving much valuable material. If you keep it in good order so that it may be easily referred to, it will be of great service.

Our new binder looks like a book. IT LIES FLAT. It is bound in green



honey jars





new

"Excelsior Jars"... range in size from
1/2 pound to 4 pounds.



"Tall Cylinder Jars"... range in size from
1 1/4 oz. (individual service) to 3 pounds.



"Skyline Jars"... range in size from
1/2 pound to 4 pounds.




"Beehive Jars"... range in size from
1/2 pound to 2 pounds.

Hazel-Atlas offers a wide list of containers for the honey packer—the Tall Cylinder, the Skyline, the Beehive—and now the new Excelsior Jars. All easily packed and labeled. Write for free samples.

HAZEL-ATLAS GLASS CO.

WHEELING, W. VA.

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WILLIAMS BROS. MFG. CO.

5205 SOUTHEAST 82nd AVENUE

Made from pure beeswax on an exchange basis or for cash.

Located as we are in the Pacific Northwest Lumber Center, we have access to a grade of soft pine at lowest prices.

A complete line of Beekeepers' Supplies carried.

Bees and Queens sold.

PORTLAND, OREGON

SPACE RESERVED FOR
DAVIS BROS.
COURTLAND, CALIFORNIA

Shippers of the finest package bees and queens.

PIGEONS

If you are interested in Pigeons, you need the **AMERICAN PIGEON JOURNAL**, an informational, instructive 36-page monthly magazine. Sample 15c; 12 months \$1; three years \$2.

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PACKAGE BEES & QUEENS

CAUCASIANS—ITALIANS

May we urge you to book your order NOW and get the shipping date you want.

WEAVER APIARIES, Navasota, Tex.




STEAM Uncapping Plane

New tool for uncapping. Efficient and easy to operate. Guaranteed to work.

2,000 capped combs may be uncapped in 12 hours. Try it once and you will want no more steam knives. Attaches to ordinary uncapping knife boiler.

Price \$6.50, delivery charges extra.

**Rosedale Hutterian
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ELIE, MANITOBA

Package Bees and Queens

By Pound, Ton or Car.

Service - Satisfaction

Trade Agreement Prices. Write for particulars.

VICTOR APIARIES :: KYLE, TEXAS

Wanted Shipments of Old Combs for rendering into Wax.

WRITE FOR FULL PARTICULARS
THE FRED. W. MUTH CO.
PEARL & WALNUT CINCINNATI, O.

GOLDEN and Three Banded ITALIAN QUEENS

Let us book your order now for 1936. Trade Agreement prices. No deposit required.

Gullford Apiaries, Gullford College, N.C.

Crop and Market Report

Compiled by M. G. Dadant.

For our January Crop and Market report, we asked reporters to answer the following questions:

1. How is honey moving?
2. Are buyers advancing prices?
3. What percentage of honey is out of hands of producers?
4. Any suggested changes in price schedule last issue?

How Is Crop Moving?

We believe that we can safely say that the honey movement is better for this time of year than it has been in several years if we are to judge from reports coming in from producers. This is somewhat unexpected in view of the fact that the holiday season interfered and also there was a large crop of apples and other fruit which had to be disposed of during the fall season. However, in defense of the desirable movement, would be the fact that many carloads of apples have moved to market satisfactory during the past month and the glut in market seems to be pretty well cleared up.

Only a few reporters state that honey is moving slowly with about 25 to 50 per cent fair and the balance of them state that it is moving good to extra fine. All in all, we can consider the movement of honey very satisfactory.

Honey on Hand

In practically all instances, the amount of honey left on hand is negligible and should be readily disposed of before the coming season as far as the producer is concerned. Many states report practically no honey on hand in the hands of the producer and a large majority report 5 per cent to 20 per cent on hand which is surprising for so early in the season. Pennsylvania which is usually slow in disposing of its crop reports still 75 per cent on hand and we have a few other states including Florida, Texas, New Mexico and perhaps Arizona which report 30 to 40 per cent on hand. The balance of them very much less and the reports being spotted also.

Are Jobbing Prices Advanced?

From private correspondence coming in to this office, we had anticipated that perhaps jobbers were "laying off" of purchasing honey and there might be a possibility that the offers made on honey would be somewhat reduced over a month ago or at least that the action on the part of the jobbers would be very much less.

However, our reports would indicate that jobbers are still very active and at least at prices they have been offering in the past. In fact, likely 25 per cent of our reporters stated that jobbing prices were up from $\frac{1}{4}$ to $\frac{1}{2}$ per cent over what they were a month ago. We do not anticipate, however, very much activity on the part of most jobbers who are likely well supplied and will be until a little later on in the season, say February or

March. There is undoubtedly a lot of amber honey, particularly in the Central West which is giving some difficulty to bakers and which will likely be a little slower in being disposed of until the proper channels are reached since amber honey in many cases is better for baking than is the white stock.

Carload Prices

Carload prices have held up very well. In the East and Central West, we find carload prices ranging from $6\frac{1}{2}$ to 7 cents f.o.b. shipping point as about the standard price with some buyers quoting the same as above as prices delivered to their packing houses.

In the Southeast, as well as the Southwest, the prices range considerably less than this, ranging from $5\frac{1}{2}$ to $6\frac{1}{2}$ cents in carload lots.

In the Plain States, we find price ranging about the same as the East. In fact there seems to be more of a standardization of prices just now than there was one month or two months ago, the f.o.b. shipping point prices merely fluctuating with the difference in freight or truck rates to the main points of concentration.

We find one reporter quoting a carload of good white honey at 8 cents per pound. He had previously been offered 7 cents and refused to accept.

We doubt whether honey prices will move up to the 8 cent level. In fact as another good reporter stated, the minute you get up above about a 7 to $7\frac{1}{2}$ cent level on honey, then you begin to show a marked decrease in demand and this is one thing which must be carefully avoided.

On amber honey, we find the price in California, Arizona and in other sections at about 5 to $5\frac{1}{2}$ cents f.o.b. shipping point which would make a price of $6\frac{1}{2}$ cents delivered to concentration point.

Ton Lots

In ton lots, honey has been moving at about $\frac{1}{2}$ to 1 cent per pound and in some instances $1\frac{1}{2}$ cents per pound over the carload rate.

Summary

All in all, it looks like the present crop of honey is going to be absorbed very nicely. There may be some lull in the demand during January and February but we look for a sufficient pickup during March and April to clean up all of the old honey before the new crop is available, particularly for good white honey. This year it seems that perhaps amber honey may not move so readily owing to the fact that there has been likely a larger percentage of amber honey this year than is usual owing to the shortage of the white crop and the heavier amber fall crop, particularly in the Central West fall region. However, the volume of amber, even so, is not sufficient to cause any carryover we believe.

The BEEKEEPER'S EXCHANGE

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

BEEES AND QUEENS

ITALIAN Queens. Northern bred, for Northern conditions.
Eugene Gordon, Hershey, Nebraska.

CAUCASIAN BEES AND QUEENS booked up for 1935 but accepting orders for 1936 delivery. Bolling Bee Co., Bolling, Ala.

THREE-BANDED Italian bees and queens for 1936. Write for prices. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, North Carolina.

BEST MOUNTAIN GRAY Caucasian bees and queens. Select queens 75c each. 2-pound package with queen \$2.45; 3-pound package with queen \$3.15. Booking orders without deposit. Full weight, safe arrival guaranteed.
P. B. Skinner Bee Co., Greenville, Ala.

HONEY FOR SALE

FOR SALE—Northern white extracted and comb honey.
M. W. Cousineau, Moorhead, Minn.

CHOICE Michigan Clover Honey. New 60's.
David Running, Filion, Michigan.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—Well ripened clover honey, car lot or local shipments. Will be pleased to submit sample. **THE COLORADO HONEY PRODUCERS' ASSN.,** 1424 Market St., Denver, Colorado.

HONEY FOR SALE—Keep your customers supplied with honey. We can furnish white and light amber honey at attractive prices. Packed in 60-lb., 10-lb. or 5-lb. tins.
Dadant & Sons, Hamilton, Ill.

FOR SALE—Comb and extracted honey.
H. G. Quirin, Bellevue, Ohio.

FANCY CLOVER and fall honey.
Kalona Honey Co., Kalona, Iowa.

EXTRACTED HONEY, light and amber, Write for price.
Henry Price, Elizabeth, Illinois.

FOR CHOICE AMBER extracted honey address Henry Stewart, Prophetstown, Ill.

FALL FLOWERS extracted in 60-lb. cans, two cans to the case, new cans and cases. Fine body, fine color. Ten tons now. Sample for the asking.
W. S. Earls & Son, New Canton, Ill.

FOR SALE—Comb and extracted honey.
Earl Baker, Genoa, Illinois.

FOR SALE—White clover honey in new 60-lb. cans. John Olson, Davis, Illinois.

HONEY AND BEESWAX WANTED

WANTED—Extracted Honey. Send sample and price delivered to T. W. Burleson & Son, Waxahachie, Texas.

WANTED—Honey.
Russell Smalley, Rippey, Iowa.

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—HONEY and BEESWAX. Beekeepers will find it to their advantage to communicate with us. Please send samples, state quantity available and prices. **CALIFORNIA HONEY COMPANY,** Hamilton & Company, Agents, 108 W. Sixth Street, Los Angeles, California.

WANTED HONEY FOR CASH—Truck lots and carloads—good Illinois, Indiana, Michigan, Ohio, Wisconsin, Minnesota, Dakotas and Western honey. We are large cash buyers—write us.
W. F. Straub & Company, Chicago, Ill.

WANTED—White and Light Amber Honey. Carlots or less. Clover Blossom Honey Co., 712 Kossuth St., Columbus, Ohio.

SPOT CASH PAID FOR COMB AND EXTRACTED HONEY. Send samples and best price.
C. W. Aepler Company, Oconomowoc, Wis.

CASH FOR BUCKWHEAT HONEY AND CLOVER or both blended together. George Anderson, 618 North 20th Street, Milwaukee, Wisconsin.

WANTED

HELP WANTED—Experienced Queen Breeder or Package Man. Prefer married man with family wishing to light farm, dairy and garden. Or will sell former home at Crawford, Miss., with or without bees, to reliable parties. Modern home, completely equipped for the bee business.
Jensen's Apiaries, Macon, Miss.

WANTED—To lease from owner, several hundred colonies of bees.
W. G. Duckwall, Jacksonville, Ill.

WANTED TO BUY—75 colonies of bees in two-story 10-frame standard hives in good southern location. Henry Stabe, Lansing, Ia.

WANTED—Honey, used foundation mill, beeswax. Will pay highest price in trade with package bees.
Homer W. Richard, Eldorado, Ark.

WANTED—Active young man for my Alabama apiaries. Experienced queen breeder preferred. Give full particulars in first letter. References required.
David Running, Filion, Michigan.

WANTED—Experienced queen breeder to run two thousand nuclei for California shippers, percentage basis. Young man preferred. State full particulars.
Care Box 100, American Bee Journal.

FOR SALE

STRAW BEEHIVES for roadside honey selling stands; English and landscape gardens; estates. Photos on request.
G. Korn, Berrien Springs, Mich.

FOR SALE—300 colonies of bees in modern 10-frame standard equipment, well located in six yards; they have lots of honey and extracting equipment.
T. W. Burleson & Son, Waxahachie, Texas.

FOR SALE—An excellent producing outfit of bees in Wyoming, consisting of 1,400 colonies, fully equipped, and in the best condition; went into winter in A1 shape. This is a desirable outfit with a good record. If interested, details will be furnished by writing c/o Box 50, American Bee Journal.

FOR SALE OR TRADE—Bee supplies for 1935 honey. Otto Schleif, Hebron, Nebr.

SUPPLIES

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. **The Colorado Honey Producers' Association,** Denver, Colo.

PORTER BEE ESCAPES save honey, money, avoid stings; faster most efficient. Sample 15c. R. & E. C. Porter, Lewistown, Ill.

SAVE QUEENS. Safin cages now 15c. Ten for \$1.00.
Allen Latham, Norwichtown, Connecticut.

DIFFERENT, that's all. Written and published for the instruction of beekeepers. 52 pages of breezy entertaining beekeeping comment each month. One year, \$1.00; two years, \$1.50. Sample, 3c stamp.
The Beekeepers Item, San Antonio, Texas.

FOR SALE—Queen mailing cages. Material, workmanship and service all guaranteed. Write for quantity prices.
Hamilton Bee Supply Co., Almont, Mich.

FRAMES—Standard Hoffman \$29.50 per 1000. Other supplies. Price list free.
Northern Bee & Honey Co., Osceola, Wis.

YOUR WAX WORKED into plain medium brood foundation for 15c pound; thin super, 22c. Fred Peterson, Alden, Iowa.

QUALITY BEE SUPPLIES. Prompt shipment. Reasonable prices. We take honey and beeswax in trade for bee supplies.
The Hubbard Apiaries, Onsted, Michigan.

FOR SALE—Comb foundation at reduced prices. Plain, wired and thin section. Wax worked at lowest rates.
E. S. Robinson, Mayville, N. Y.

THE PINARD nailless shipping cage. Agents Diamond Match Company, Chico, California; Weaver Apiaries, Navasota, Texas. Send for samples. A. B. Pinard, 810 Auzerias Avenue, San Jose, California.

DAIRY GOATS

DAIRY GOAT JOURNAL, Dept. 601, Fairbury, Nebraska. Monthly magazine, 25c yearly, 5 months 10c.

MISCELLANEOUS

HAVE LOCATION for 1,000 colonies or more, crop off May 25. No state inspection or disease to my knowledge.
John P. Nelson, Levy, Arkansas.

BOOK BARGAIN—Very slightly damaged copies of Beekeeping in the South by Kenneth Hawkins, cloth bound, published to sell at \$1.25, price postpaid only 29 cents.
American Bee Journal, Hamilton, Ill.

PLANS FOR POULTRY HOUSES—All styles; 150 illustrations. Tells you the type to build for your particular locality. Secret of getting winter eggs, and copy of "Inland." Send 25c.
Inland Poultry Journal, Spencer, Indiana.

FOR SALE—We are constantly accumulating bee supplies slightly shopworn; odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it.
Dadant & Sons, Hamilton, Illinois.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, Brockhill, London Road, Camberly, Surrey, England.

HAVE YOU any Bee Journals or bee books published previous to 1900 you wish to dispose of? If so, send us a list. **American Bee Journal,** Hamilton, Ill.

THE DADANT SYSTEM IN ITALIAN—The "Dadant System of Beekeeping" is now published in Italian, "Il Sistema d'Apicoltura Dadant." Send orders to the American Bee Journal. Price \$1.00.

Meetings and Events

(Continued from page 39)

Ohio Association, at Columbus, January 28-30

The Annual Winter Meeting of the Ohio State Beekeepers' Association is scheduled January 28, 29 and 30 in the Botany and Zoology Building, Ohio State University, Columbus, Ohio. Two representatives from the United States Department of Agriculture: Dr. James I. Hambleton, Director of the Bee Culture Laboratory and Mr. Harold J. Clay, Bureau of Agricultural Economics, will participate in the program. A special treat will be in store in the talks presented by Dr. E. J. Dyce, Guelph Agricultural College, Canada. Other well known speakers will include H. H. Root, M. J. Deyell, Clifford Muth, C. A. Reese and W. E. Dunham. Interesting talks will be given by some of our talented Ohio beekeepers.

Everyone is extended a cordial invitation to attend the educational program.

Vigo County (Indiana) Schedules for January 22

The meeting of the Vigo County Association, originally scheduled for January 15 has been postponed until January 22nd because of the Purdue Agricultural Conference mentioned elsewhere in this Department.

The January 22nd meeting will be held at "The Honey Krushed Wheat Bakery" on North Eighth Street, Terre Haute at 7:30 p.m. The speakers will be Herman McConnell, queen breeder, Robinson, Illinois; Arthur Haseman, Greene County Agent; and E. W. Wagner, vocational agricultural teacher, Lyons High School.

The Vigo County Beekeepers' Auxiliary will meet at the same time. A speaker will be furnished by the Home Economics Department of the Indiana State Teachers' College.

Prizes will be awarded the beekeeper who brings the most others with him to the meeting from his township. A prize will be given the lady who also boosts the attendance the most. Honey Krushed Wheat Sandwiches will be furnished by the host, The Midland Bakeries Company, and Kaffee Hag Coffee will be furnished by the Kellogg Company.

The dues to the Vigo County Association are 75 cents a year including membership in the Indiana State Beekeepers' Association. We have set our goal for 100 in attendance at this meeting. Let's all come.

Wm. A. Pogue, President,
St. Mary-of-the-Woods,
Indiana.



If the mouse and the elephant don't agree
Consider the case of this go-getter bee.

The story is plain; you can guess the rest
It's a Blue Ribbon Bee; always the best.

FREE! ILLUSTRATED CATALOG

Tells how to care for
package bees. Facts about
bees and beekeeping.

Full story of BURLE-
SON'S BLUE RIBBON
BEES.

Have you received your
copy? Drop us a line to-
day. You will get a copy
by return mail.

Burleson's Blue Ribbon Bees

THOS. C. BURLESON

BOX 540

COLUSA, CALIFORNIA

Wanted White Extracted Honey

Send Sample and best price Frt. Paid to Cincinnati, O.

THE FRED. W. MUTH CO.

A Happy, Prosperous

New Year to You All

JENSEN'S APIARIES will be at your service with more prime young bees, finest young queens, and the kind of service that brings 'em back, in 1936.

You will not get better weights, or higher quality bees and queens than we ship, regardless of claims. The marketing agreement is your protection as well as ours. Your problems are our problems. Your interests are our interests, better beekeeping is our mutual endeavor; so let's work together for mutual gain.

Promote the use of honey through the American Honey Institute, and we will all be sitting pretty.

Prices to June 1st	Two-Pound Packages with Select 1936 Queens . . .	\$2.45 each
	Three-Pound Packages with Select 1936 Queens . . .	\$3.15 each
	Additional Pounds, 70c per Pound	
	SELECT UNTESTED QUEENS	75c EACH

We guarantee: Freedom from disease. Pure Italian stock. All queens to be mated and laying properly before shipment. Prompt shipments and arrival in good condition.

JENSEN'S APIARIES The Home of "Magnolia State" Strain Italians **MACON, MISSISSIPPI**
(Formerly Crawford, Mississippi)

NewCAPPING MELTER

Uses waste steam from capping knife.
No injury to honey—no wax or specks.
No honey left in the wax.

Solves the
Problem of
Melting
Cappings

"Another milestone in beekeeping passed."
—John Semon, California.
"Wax of premium grade. Honey runs out clear and clean."
—Ralph Barnes, Nebraska.

Write to W. T. BRAND, Mitchell, Nebraska.



A Prosperous New Year-- To all Beekeepers is Our Sincere Wish.

Let us help you in making this wish a reality by using our full weight package bees and select Italian queens.

A good colony from every package.

Prompt shipment. Marketing Agreement prices.

CITRONELLE BEE COMPANY, Inc.
CITRONELLE, ALABAMA

SELL US YOUR WHITE OR AMBER EXTRACTED HONEY

— AND BEESWAX —

ANY
QUANTITY



NOW

FOR HIGHEST
CASH PRICES

WRITE US AND SEND SAMPLES

BEE SUPPLIES AT LOWEST PRICES

Write for prices on quantity lots—

FOUNDATION

HIVES

BODIES

SUPERS

FRAMES

WE SAVE YOU MONEY

Ship your wax to be made into
foundation. Send for 1936 new
low prices.

THE **FRED W. MUTH CO.** Pearl and Walnut Sts. **CINCINNATI • OHIO**

To assure yourself of obtaining the best of supplies, read
the ads of A-B-J — when writing to them, mention A-B-J

**WANTED
TENTONS OF
BEESWAX
FOR CASH OR TRADE**

EBY'S Busy Bee Brand FOUNDATION

Four times as much foundation in 1935 as
ever before. For 1936, new refining, new 10,000
foot fireproof building. Let's go. Write for

our new low prices on working old combs and wax into our true base, non-
sag foundation. Wax accepted on foundation work, bee supplies, packages
or nuclei.

Let us ship you package bees, nuclei or full colonies from the South
by express or truck. I. A. Stoller, Northern queen breeder and honey pro-
ducer, in charge of our southern shipping business. All packages and
nuclei headed by Stoller Queens. Write us.

When better foundation is made, Eby will make it.

When better queens are reared, Stoller will raise them.

Ask the men who use them. Reference Dun & Bradstreet.

Highland Apiaries and Factory West Elkton, Ohio

IMPORTED ITALIAN QUEENS for Spring Delivery

SAME PRICE AS 1935

Book your order and reserve your shipping date.

The **CROWVILLE APIARIES**
R.F.D. 1 WINNSBORO, LOUISIANA

BETTER BRED BEE 3-BANDED ITALIANS

If you could read some of the nice letters
from our customers thanking us for our
fine quality and prompt service, we feel
sure you would try our bees too. Why
not book your orders now. No deposit
required.

CALVERT APIARIES, Calvert, Alabama.



Package Bees and Queens

For Early Shipment

Caney Valley Apiaries, Bay City, Tex.

Learn To Play Piano The Magichord Way!

Only
\$1
COURSE
COMPLETE

Easiest Teach-Yourself Method

Sensational new quick short cut, reveals secrets of Modern Piano
Playing. Wonderful Magichord Finder, included FREE, teaches
chords without notes. You start playing at once - play popular
songs in few weeks. Play by note or ear. No tedious exercises.
Results guaranteed. Send \$1.00 for complete course, or sent C.O.D.

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PELLETT'S NEW BOOK "FLOWERS OF THE WILD" Their Culture and Requirements By Frank C. Pellett

A naturalist's book about wild flowers. It tells
things everyone should know, but overlook.
Cloth Binding, 168 Pages, Over 100 Pictures.
Price \$2.00.

AMERICAN BEE JOURNAL, Hamilton, Ill.

PACKAGE BEES, NUCLEI, QUEENS

FOR 1936 DELIVERY

— Circular Free —

"ST. ROMAIN'S HONEY GIRL" APIARIES
Hamburg, Louisiana

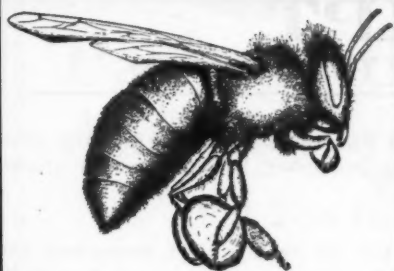
**SWARMING—ITS CONTROL AND PRE-
VENTION** by L. E. Snelgrove, M.A., M.Sc.
Including new and easy methods of pre-
vention—involving little labor, no caging
of queen or destruction of cells—no in-
terruption of laying or honey-gathering,
immediate occupation of supers, annual
requeening, increase or not as desired.
Postpaid, \$1.00.

SNELGROVE, Bleadon, Somerset, England

THRIFTY BEES

Guaranteed to please. Combles packages & Queens
Let us quote you our 1936 prices

W. J. Forehand & Sons
Fort Deposit, Alabama
Breeders Since 1892



The Honey Producing Qualities

of Forehand's Bees is not a matter of chance or guess, but the result to be expected from intelligent and accurate application of knowledge gained in continuous apiary experience and the 40 years' experience in rearing queens and bees commercially.

Untested queens, 75c each. 2-lb. pkg. of bees with queen, \$2.45. 3-lb. pkg. of bees with queen, \$3.15.

Get your bees and queens when you need them by placing your order early.

N. FOREHAND
DE LAND, FLORIDA

1936

A Happy New Year

A. H. Rusch & Son Co.
Reedsville, Wisconsin

PACKAGE BEES

AND
ITALIAN QUEENS
FOR 1936

If You Need 1 or 1,000
Let me quote you.

R. E. LABARRE
Shasta Co., Cottonwood, California.

AMERICAN RABBIT JOURNAL

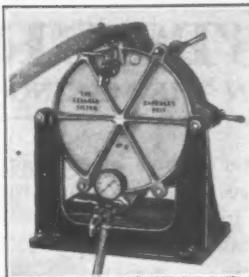
Shows the way to success... gives the latest news and views of the rabbit world—an illustrated monthly magazine of general and educational features. Yearly \$1.00. Three years, \$2.00. Sample 15c.

AMERICAN RABBIT JOURNAL
Dept. S. Warrenton, Mo.

PACKAGE BEES

Write for our circular and proposition to trade packages and queens for extracted honey.

GOOCH APIARIES, Farmersville, Tex.



HONEY FILTERING!

Special equipment for filtering honey. Amazing results in brilliantly clear, stable honey, with high sales appeal. Simple process. Profitable investment. Filter, mixing tank, flash heater, complete outfit—investigate! Write us—no obligation.

THE CELLULO COMPANY
1321 FIRST STREET SANDUSKY, OHIO.



THE BEE THAT
GETS THE HONEY
DOESN'T HANG
AROUND THE HIVE

BASSETT'S ITALIAN Queens and Package Bees

THREE BANDED STOCK

Will you be ready for the coming season? WE ARE READY to furnish you with bees that do not loaf, or hang around the hive, bees that will show you a profit, and are pleasant to work with.

We use the very latest modern equipment and methods of production and shipping, our apiaries are all in order, the kind you would like to look at. We have planned ahead and have spared neither money nor labor to be able to furnish you with first quality products. It is a GRAND feeling to be ready. Advance orders and inquiries are coming in rapidly, and prospects are that the demand will be the greatest in the history of the business.

Book your order now, let us furnish you with the kind of bees and queens that have made it possible for us to send you this message.

PRICES TO JUNE 1st

2-lb. package, with young laying queen, \$2.45; 3-lb. package, with young laying queen, \$3.15; less 15% to dealers.

Select young Italian queens, \$1.00; two or more, 75 cents each.

Orders booked with ten per cent deposit, balance before shipment.

Located in Northern California

IXL APIARIES

C. BASSETT, Prop. **SUTTER, CALIFORNIA.**
(Member California Bee Breeders' Association)

WRITE FOR FREE BOOK

On the Great Northwest. Thousands of acres of sweet clover and other honey plants that give honey of high yield and fine quality. Favorable localities—Red River Valley, in Minnesota and North Dakota; Milk River Valley; Lower Yellowstone Valley; Valier Project; Kootenay Valley, in Montana and Idaho; and the Pacific Coast Region, in Oregon and Washington.

Beekeepers in this country are increasing their holdings and new beekeepers are establishing themselves along the Great Northern Railway in these states. Diversified farming and live stock are similarly favored by low cost production.

Write for Free Booklet on beekeeping and farming opportunities, including Low Homeseekers' Round Trip Excursion Rates.

E. C. LEEDY

DEPT. J., GREAT NORTHERN RAILWAY

ST. PAUL, MINNESOTA

NOW IS THE TIME

To figure your needs for the coming season and place your order early that you may receive the shipping date you prefer. We are making all preparations now to serve you promptly with the best quality of bees and queens obtainable. Our shipping cages we consider perfect in every respect. Extremely light, but made of tough material, right dimensions and easy to manipulate. Bright Three-Banded Italian Stock. Write us for circular and prices.

COTTON BELT APIARIES, R. F. D. 2, Paris, Texas

The POSTSCRIPT

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

A welcome surprise comes to me in the form of a letter from B. T. Bleasdale, former president of the Iowa Beekeepers' Association, from whom I have not heard in several years. His many friends will be glad to know that he is enjoying life in sunny southern California. He does not think so much of California as a beekeeping paradise, but does like the climate.

— : —

L. C. Dadant harvested more than 8,000 bushels of apples from his orchard the past season but, because of low prices and slow demand, realized but small profit from the venture. Apple growing is a long-time undertaking. One must invest large sums in the planting and care of the trees and wait many years for profitable crops. When the trees do begin to bear, expenses for spraying and care of the orchard are heavy. Beekeeping is quicker in bringing returns, the outfit can be moved in case of unstable conditions and expense in operation is smaller. Taken altogether, it is a better business than fruit growing if we are to judge by results obtained by the Dadant family of three generations following the two lines together.

— : —

Among the few favorable reports for the balsam clover is one from L. J. Roll, of Yorktown, Saskatchewan, who says that for him it did exceptionally well. The fact that it did succeed in some places should encourage further trials.

Stanton Smith, of Zanesville, Ohio, reported poor results from the early planted balsam clover but rather surprisingly a second crop came up in the fall where the seed had fallen. He wrote that there was quite a bed of it in bloom on November 12 and that it was much more thrifty than the early crop. Frost apparently did not injure it. Another indication that it is a cool weather crop.

— : —

Between St. Joseph and Kansas City, Missouri, there is a small stream known as "Bee Creek." One finds "Buck Creek," "Coon Creek" and "Bear Creek" most anywhere but the bee is seldom so honored. It raises the question as to how many other Bee Creeks there may be and where. There is a city of considerable size known as "Beeville" in Texas.

— : —

The Iowa Beekeepers' Association is one of nine affiliated societies which compose the Iowa State Horticultural Society. The fruit growers, the vegetable growers, the florists, the garden clubs and others of similar interest are thus joined together in one organization with a total membership of about 8000. I feel that it is due to the interest of my friends among the beekeepers that I was honored by election to the office of president of the parent society. I certainly appreciate their generous support.

— : —

H. R. Busch from far Hornby, Canterbury, New Zealand, writes that the main honeyflow in that country on the opposite side of the world, starts around Christmas. Trial of the Alpha sweet clover there appears promising. Beekeepers are doing their bit to spread new and useful plants to new regions throughout the world.

— : —

December finds the Mrs. and me in the Lower Rio Grande Valley of Texas where we are enjoying the balmy weather. It is warm enough to be pleasant with doors and windows open by night as well as day.

It is the quiet time for the bees, but flowers are blooming and one finds the bees gathering pollen on the blossoms of the mallows and the palms. On opening some hives the first week in December, I found that the queens were laying.

— : —

Local beekeepers tell me that a light honeyflow can be expected early in January and that a good flow from citrus is probable in February. It appears to be a fine place for early breeding, but reports indicate that honeyflows are not dependable. There are reports of serious losses from the dusting of cotton to control insect pests. More and more we hear complaints of the beekeeper who suffers from the poisoning of his bees, in every section of the country.

— : —

The acreage of citrus fruits is so large that one would expect big crops of citrus honey as in California. Mesquite on uncleared land seems to be more dependable and mesquite honey is of fine quality. When the beekeeper gets both he is fortunate.

— : —

Among the tropical fruits which are grown here in the valley are the papayas. They look more like melons than anything else which comes to mind for comparison, but they grow on trees. They are said to be especially good for digestive troubles and some doctors send their patients with stomach disorders to warm climates to live on papayas. They are propagated only by seeds and thus vary greatly in quality. Some are very good and some taste like spoiled cheese. One needs to learn how to tell good fruit when he sees it.

— : —

The coral vine or pinkvine, which has been mentioned several times on this page, is seen everywhere in the south Texas country growing over porches and pergolas. It is a fine ornamental in warm climates and a rich honey plant. I wish that we could grow it in the North.

— : —

The story of Eugene Secor in the December issue was of more than usual interest to me, since Secor was one of my special friends. I well remember one of the hives which he made before I was born. The frames were placed across the hive instead of lengthwise, as is the present practice. I wish that some of the great universities where beekeeping is recognized would establish a museum to preserve such relics.

— : —

At the time of the marriage of the last of our four children I made a comment on this page to the effect that wife, after thirty-four years spent in raising a family, had lost her job and would find it necessary to seek some new interest in life. Our red-haired daughter-in-law took exception to my remarks and said that wife had not lost anything but had found her freedom and would no longer be tied to the kitchen sink and the mending basket. "Mickey" was right, as usual, for wife is busy as ever, though she regrets her inability to keep hubby at home. She has a lot of fun doing things for first one of the grand-kids and then another. So she is living life all over again with all the joy of the babies without the responsibility that goes with their care.

— : —

And now we are settled in a tiny apartment among the orange trees where there is not too much housekeeping to do, since it is better to stay out of doors in this warm climate. When spring comes we will probably be very glad to get back home again to see how much the grand babies have grown during our absence.

FRANK C. PELLETT.

Package Bees And Preparedness for 1936



Will You Be Ready for the Coming Season?

A honey shortage is already reported in many sections of the country and prospects for the honey producers were never more encouraging than now. We have never stopped and will have everything in readiness in advance of the season which will enable us to give customers 100% service. Added expense on our part to improve quality and shipping makes our prices the lowest ever but our prices will be the same and the difference will be passed on to you in higher quality. Last season was the greatest in our history, more bees and queens shipped but we are expecting the coming season to be far greater and we are prepared to meet it with a larger output, higher quality and better service. We urge customers to book their orders now, have everything ready in advance of the season and be assured of your bees when wanted

Young Laying Italian Queens, 75c each, any number. Tested Italian Queens, \$1.50 each, any number. 2-pound packages Italian Bees with Queens, \$2.45 each, any number. 3-pound packages Italian Bees with Queens, \$3.15 each, any number.

Safe arrival, freedom from disease and satisfaction guaranteed. All orders will be greatly appreciated and none will be too large or small for us to handle as our output will be around 500 packages per day during the main shipping season. If not acquainted with us, our bees or service ask any of our customers or refer to any Bee Supply House or any Bee Journal in the U. S. or Canada.

York Bee Company, Jesup, Georgia
(The Home of Quality Products)

Lewis Beeware and Dadant's
Foundation at Catalog Prices



WE ARE DOING THINGS AT PADUCAH

Pictured here are my men and truck unloading one of many carloads of the soft white Beehive Pine we are manufacturing into beehives. This is a special soft textured beehive pine, manufactured into lumber by one of the largest and best equipped sawmills in the United States. This manufacturer tells us that he is selling sev-

eral other large beehive factories exactly the same grade, same quality material used for the same purpose. Here at our factory we have equipped ourselves with practically every available labor and time saving equipment for manufacturing beehive parts rapidly, smoothly and accurately. We have no high paid officials. We pay no dividends to stockholders. We have no unnecessary expenses here. Due to these and many other economies we are able to offer you first class beehives at a substantial saving.

We are aiming at perfection in the manufacture of beehives here at Paducah. We are positive that the hives we are now manufacturing will please you completely, that the fit will be exact, that the lumber will be as soft, and that you will find them first grade in every respect.

We will appreciate a trial order, and if on examination the supplies do not please you in every way, you may return them and we will refund your money plus transportation charges. We are taking all the risk in offering you this proposition. Don't you think it would pay you to investigate our supplies before you place your 1936 order?

SINGLE SAMPLE FRAMES MAILED FREE ON REQUEST. WE OFFER EARLY ORDER DISCOUNTS FOR JANUARY SHIPMENT ONLY. 1936 CATALOG WILL BE MAILED LATE IN JANUARY. WRITE FOR YOUR COPY NOW.

THE WALTER T. KELLEY CO., PADUCAH, KENTUCKY
MANUFACTURER OF BEE SUPPLIES



Standard Lumber Co.

To reduce quickly our over-stock on eight-frame equipment we offer the following bargains subject to prior sale. First come, first served. This is all regular stock manufactured by G. B. Lewis Company.

60 8-fr. Hives, complete with metal roof and inner covers, per 5	\$9.00
10 8-fr. Hives, complete with wood covers, per 5	8.00
100 8-fr. Bodies with frames, per 5	4.00
160 8-fr. Bodies, empty, per 5	2.40
60 8-fr. Extracting supers with shallow frames, per 5	2.50
40 8-fr. Wood Bound Excluders, each	.20
110 8-fr. Wood and Zinc Excluders, each	.22
70 No. 6661 Single Tier Wood Shipping Cases, per 10	2.50
10 No. 662 Single Tier Wood Shipping Cases, per 10	2.50
20 Alexander Feeders with Metal Pans, each	.20
15 Mosquito Bar Bee Veils, each	.15
8 Packages of 50 Unspaced Frames, per pkg.	1.50
500 No. 364 Metal Frame Spacers, per 100	.20
700 No. 330 Metal Frame Shoulders, per 100	.20

When you need "Beeware" remember Winona. It's close home for cheap hauls for Minnesota and surrounding territory. Full line of Lewis "Beeware" and Dadant's Foundation.

STANDARD LUMBER CO.
WINONA, MINNESOTA



That
"Chewy"
Center

Calls the Customer
Back

Dadant's Surplus
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ASK YOUR DEALER
DADANT & SONS, HAMILTON, ILL.

LOWER PRICES

ON MANY OF OUR PRODUCTS IF YOU ORDER
BEFORE MARCH FIRST.

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TELL US YOUR NEEDS AND WE WILL QUOTE
PRICES.

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S. P. HODGSON & SONS
NEW WESTMINSTER :: BRITISH COLUMBIA



Something to Think About

When You Buy On Price You Can Never Be Sure

It's unwise to pay too much—but it's worse to pay too little.

When you pay too much you lose a little money, that is all.

But when you pay too little you sometimes lose everything because the product was incapable of doing the thing it was bought to do.

The common law of business balance prohibits paying too little and getting a lot—it can't be done.

If you deal with the lowest bidder it is well to add something for the risk you run; and if you do that you have enough to pay for **QUALITY**.

Buy your Package Bees and Queens from

THE PUETT CO., Hahira, Ga.
"Where Satisfaction Is a Certainty"

**Do You Want Bees?
Do You Want Live Delivery?
Do You Want Your Bees on Time?**



Merrill's Quality Bees and Queens will suit you, then. Few losses in transit. We have shipped many thousand packages and queens.

★ ★

Mississippi's Oldest Shippers

★ ★

PRICES

Two-Pound Package, with queen	\$2.45
Three-Pound Package, with queen	3.15
Select Queens, each	.75

15% Discount to Dealers
Under Trade Agreement

★ ★

MERRILL BEE COMPANY
BUCKATUNNA, MISSISSIPPI

Italian Package Bees

QUEENS

Breeding queens that have proved their value as producers in the honeyflow of the North.

Shipping cages light in weight, well made, well crated.

Laying queens, untested, each	-----	\$.75
Tested queens, each	-----	1.50
Two-pound package, with queen, each	-----	2.45
Three-pound package, with queen, each	-----	3.15

15% discount to dealers only.

I. G. ROSSMAN
MOULTRIE, GEORGIA

41 Years' Experience

We are manufacturers of beekeepers' supplies and can promptly furnish everything a beekeeper needs; SECTIONS, HIVES, SHIPPING CASES, etc.

The manufacture of one-piece sections is one of the specialties upon which we pride ourselves. We use only the choicest SECOND GROWTH basswood in the manufacture of sections, and all are perfect in finish and workmanship.

WRITE FOR OUR 1936 BEE SUPPLY CATALOGUE AND COMPARE PRICES BEFORE YOU BUY.

MARSHFIELD MFG. CO.
MARSHFIELD, WISCONSIN
Established 1896

ROOT SERVICE — from — CHICAGO



We Sell

Beekeepers' Supplies

Root Quality—the Best

CONTAINERS FOR HONEY
Standard Makes—Complete Line

HONEY
Comb and Extracted—Select Lots

We trade for and buy
BEESWAX AND HONEY

Write us about your needs. What Trade may we have with you? Let us quote you on your needs.

A. I. ROOT CO. of CHICAGO
224 WEST HURON STREET
CHICAGO, ILL.

THREE BAND ITALIAN QUEENS AND COMB-LESS PACKAGE BEES

As good as there is shipped in as light built cages as it is safe to ship in shipped on the day you want them. State health certificate with each shipment. Enough overweight is added to take care of shrinkage while enroute. Live arrival guaranteed. No orders too large to be handled out promptly.

QUEENS BY MAIL PREPAID

UNTESTED, each	-----	\$.75
TESTED, each	-----	\$1.50

Bees for express shipment. Each package with an untested queen, F.O.B. here.

Two-Pound Packages	-----	\$2.45 each
Three-Pound Packages	-----	\$3.15 each

For mail shipments of bees add 10c for each package, plus postage.

D. C. JACKSON
FUNSTON, GEORGIA



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*Best Wishes to Our Friends
Throughout the World
for the Year
1936*

We also wish to thank everyone who
has given us an opportunity
to serve them in the past.

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QUALITY
BEE SUPPLIES

THE A. I. ROOT CO.
MEDINA, OHIO
ESTABLISHED 1869

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